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CONTENTS

EDITORIAL:

| | |
|--|---------------|
| Editorial Notes | 419 |
| Railway Hotels and Eating Houses..... | 420 |
| The Federal Valuation Law..... | 421 |
| *The Pennsylvania Railroad and the New York Central..... | 422, 462, 464 |
| New Books | 425 |

LETTERS TO THE EDITOR:

| | |
|--|-----|
| When "Accidents" Are Not Accidental; Plain Words From a Superintendent | 425 |
| The Captain of a Freight Train Crew..... | 426 |

MISCELLANEOUS:

| | |
|--|-------------------------|
| *Impressions of Hungarian Railway Practice; by Henry W. Jacobs | 427 |
| The Railway Valuation Law..... | 434 |
| *Grand Trunk Terminal at Ottawa, Ont..... | 435 |
| What Regulation Taught One Regulator; by John B. Olmsted..... | 440 |
| *An American Freight Car for Use in Germany..... | 441 |
| The Effect of Block Signals and Automatic Stops on Accidents; by A. G. Shaver..... | 442 |
| Weighing Hearing at Chicago..... | 442 |
| *Flash Lights for Automatic Signals..... | 444 |
| Increase in Mail Pay..... | 444 |
| New York City Subways..... | 444 |
| Foreign Railway Notes..... | 426, 433, 434, 440, 444 |

GENERAL NEWS SECTION.....

*Illustrated.

THE policy of the Hungarian State Railways in establishing standards of performance for its motive power and rolling stock, as outlined by H. W. Jacobs in an article in this issue, is to be heartily commended. While the conditions in this country cannot be compared with those in Hungary, the necessity of keeping more intelligent records of the performance and repair of our cars and locomotives is just as important and probably more so than it is in that country. No organization or business can expect to succeed without well defined aims, and records which make it possible to see just how closely these aims are being attained. The repair and performance of equipment in charge of the mechanical department is so complicated and extensive that such records should be even more important than

in an ordinary business. A superintendent of motive power said recently that with an additional expenditure of \$6,000 for clerical assistance, which would be necessary to establish certain records, he would guarantee to save \$200,000 a year for his company. Records are being compiled on some roads which are comparatively useless, because those in authority do not understand how to make proper use of them, or because the information is not complete, or is inaccurately compiled. Conditions should be carefully analyzed so that it will be possible to know just what any piece of equipment should cost to maintain and keep it in repair for a certain unit of performance. The records should then be arranged to show almost at a glance just what cars or locomotives are exceeding the standard allowances which have been set, so that those in charge may confine their energies to investigating the exceptional cases. In other words those at the head of the organization should have available for ready use complete and up-to-date data which will give them a clear idea of conditions throughout the system, so that they may direct their energies to bringing up the efficiency of such of the various branches of the department as may fall below the standards set.

WE publish elsewhere extracts from an address made by John

B. Olmsted just before his recent retirement as a member of the New York Public Service Commission, Second district. Mr. Olmsted's frank statement of the change that his experience as a member of a regulating commission made in his attitude toward public utility corporations, and especially railways, will perhaps, surprise many persons. It will interest, but not surprise those who, whether as students or public officials, have themselves begun the investigation of public utility questions with the anti-corporation bias that Mr. Olmsted admits he had, and who have, like him, honestly tried, during a considerable period, to ascertain the exact facts about public utility businesses and to draw just conclusions from them. There are few cases of persons who have had this experience, whether as university professors, publicists, law-makers or public utility commissioners, who have not come to think and feel much as Mr. Olmsted does. It is a fact often commented on that it is the new members of commissions who, being new, know little about the businesses they regulate that are the most radical, and the older members who know the most about them who are the most conservative. The difference between an inexperienced and an experienced public utility commissioner is a good deal like the difference between an efficiency engineer and an experienced railway officer. The new commissioner, like the efficiency engineer, can point out many conditions and results that are unsatisfactory. But usually their discoveries afford little new information to the managers of the utilities. The managers know already the conditions and results that are unsatisfactory. What they want is somebody to tell them how to improve them. Only the experienced know how hard it is to devise and apply remedies, and why this is so. As Mr. Olmsted indicates, a commission armed with power thoroughly to investigate the manufacturing, or mercantile, or banking, or farming business could uncover as many things to find fault with as public utility commissions can find in any public utility business. But, as Mr. Olmsted says, such a commission would be met, as public utility commissions are now met, "with the objection that its suggestions require too much of an outlay to carry them out, and would be asked how it proposed to provide the funds for the improvements recommended." We commend his next sentence to regulating bodies and the public as the summation of all wisdom in public regulation of business: "Let us be reasonable as well as critical."

THERE are two points suggested by the passage of the bill providing for a valuation of railroads that deserve consideration separately from the question of what will be shown by such a valuation. The New York, New Haven & Hartford had an independent appraisal of its property made by John F. Stevens and a statement of the valuations of these properties

was made as of June 30, 1908, this statement being compiled by Price, Waterhouse & Company. This was an attempt to get at an entirely independent and fair valuation of a railroad property. The work was left entirely in the hands of Mr. Stevens as independent engineer in charge, and the statistical and legal basis of the valuation was left to Price, Waterhouse & Company. The cost of the valuation of the steam road property alone was \$139,456. The New Haven operates only about 4,674 miles of all tracks, including sidings, out of the total of 362,709 miles of all tracks of all railroads whose operations are under the jurisdiction of the Interstate Commerce Commission. It is safe to say that if a valuation is to be made by thoroughly competent engineers and statisticians it will be a very expensive undertaking. One thing is certain: If the valuation is to be made at all it should be made by the best men available, and the Interstate Commerce Commission now has the weighty responsibility of selecting these men. No better plan could be devised than that suggested by L. F. Loree in his statement before the Senate Committee before the passage of the bill. He proposed that the commission be directed to constitute and employ a railroad valuation board to consist of nine members, three to be selected by the commission, three to be nominated to the commission by the American Railway Association, and one each to be nominated to the commission by the chief engineer of the Army, by the chief of the Bureau of Steam Engineering of the Navy, and by president of the American Society of Civil Engineers. This suggestion was ignored by the committee, but the commission has plenary powers in the premises. It is now squarely up to the commission to select examiners—economists, accountants and engineers—who shall be competent to conduct such a complicated and nice investigation as is contemplated by Congress. If the New York, New Haven & Hartford, for its own purposes, found that it was advisable to engage an engineer of Mr. Stevens' reputation and experience, and a firm of accountants of the standing of Price, Waterhouse & Company, surely it is expedient for the Interstate Commerce Commissioners to call on the best authorities which they can avail themselves of, to help them in their selection of a board of examiners.

THE "Safety-First" meeting to be held at Pittsburgh next Monday is to be managed, as announced by the Pennsylvania Railroad, "by the employees, for the employees." In other words the officers, so far as practicable, will keep their hands off. Of course, it cannot be that they intend to keep their minds off. All hands, high or low, will, no doubt, give energetic support. Everything that can reasonably be done to keep superintendents, trainmasters, road foremen, enginemen, conductors, yardmasters and shop foremen well acquainted with each other is profitable for the service, and co-operation in the management of these lectures is one good means of accomplishing such a purpose. The action of the Pennsylvania, therefore, is to be commended. We cannot believe that any weight should be accorded to the ill-natured charge that railroad officers have had some sinister motive in urging employees to safeguard their own lives and limbs, and we have seen no such charge in any reputable publication; but frank co-operation is highly desirable regardless of any criticism. We do not say that these different classes should be brought into sympathy, for 95 per cent. of them are in sympathy already; but there is need of acquaintance to make that sympathy fruitful for efficient railroading. The engineman or shop foreman who has the temperamental and other gifts qualifying him to see through the superintendent's eyes, and who can talk to his fellows convincingly, has an important function in the railroad world. This has been demonstrated on the New York division of the Pennsylvania already. At the meeting held at Trenton, N. J., this week (announced in our last issue, page 399) the lecturers gave not only the usual assortment of stereopticon views, but also displayed on the screen enlargements, from the rule-book, of a large number of "don'ts" enabling their hearers to refresh their memories more effectually in a half-hour than they could otherwise do in a period three times

as long—more effectually, in fact, than would be done by any amount of simple reading from the book; for the oral emphasis and the presence of other learners constitute a valuable mental stimulus. This use of the printed word on the screen—now so familiar in the moving picture shows—suggests the desirability of allowing men in the audience to ask questions; of converting the lecture into a conversazione—if we may be allowed such a "literary" expression. The "Safety-First" propaganda is essentially a teaching process, and the best teaching always implies talking by the pupils as well as by the teacher. A dozen questions often do more good than ten times as much talk from the lecturer. It would be easy, of course, to spoil a meeting by allowing too many questions from the ignorant and from persons who are offensively talkative; but the present suggestion is intended for those who are willing to do hard and thorough preparatory work, with a view to making their safety lectures of the utmost benefit. Why should not every railroad secure for this purpose the aid and counsel of the most accomplished lecturers and teachers? It will be necessary to make safety lectures attractive in order to avoid the deadening effect of sameness and tiresome repetition. The railroad officer who has sat on rule-revising committees for days at a time, can endure the tedium of considering and reconsidering the same idea a dozen different times or in a dozen different ways; but if he wishes to get brakemen and shopmen to look at things in this way—which will be necessary if they are going to learn to be always careful—he will have to apply first-quality skill to the process.

RAILWAY HOTELS AND EATING HOUSES.

ON account of limitations of space the description of the Grand Trunk hotel at Ottawa, published in this issue, does not contain sufficient detail to convey to the reader an adequate idea of the completeness of its appointments and the beauty of its architectural lines and interior furnishings. This structure is worthy of the attention of railway executive officers, not so much because it is the finest hotel in Canada's capital city, as because it represents the policy of the Grand Trunk in common with other Canadian roads to build and operate such first class hotels. These railway hotels are familiar to everyone who has traveled in Canada, and are almost uniformly recognized as the best in their respective cities.

The Canadian Pacific was the first to enter this field, and its Chateau Frontenac in Quebec, Place Viger in Montreal and Royal Alexandra in Winnipeg are all well established houses. The Canadian Pacific also has fine hotels in Vancouver and Victoria and is building a new one in Calgary which will be ready for occupancy late next summer. A series of resort hotels in the Canadian Rockies is also operated by this company, being located at Banff, Laggan, Fields and Glacier. The Canadian Northern operates the Prince Arthur at Port Arthur and the Prince Edward at Brandon. The Grand Trunk, in addition to the Chateau Laurier at Ottawa, is building the Fort Garry at Winnipeg, the MacDonald at Edmonton and others at western cities along the new extension to the Pacific coast.

There are two general advantages to be gained by operating a system of hotels which includes also good lunch rooms at stations. Such facilities may be used to increase passenger traffic; and in most cases they can be made to earn a net revenue. Travelers naturally choose the road which has the best facilities of this kind, other things being equal. In the keen competition for passenger traffic, the road that can offer the most convenient and efficient service of the various kinds required by travelers, has a real advantage over competing lines. Hotels built by a railway company are naturally located conveniently in relation to that company's stations—a circumstance which quite often influences the choice of route of a traveler leaving the city. While the reports of the Canadian roads do not show the net revenue from hotels and dining rooms, the ability to buy supplies in large quantities for a large number of such places, and the excellent patronage at good rates which is practically assured,

should make their operation profitable. It is known that on some foreign lines, as, for example, the South African railways, this service is made to earn a very appreciable revenue.

The service furnished in lunch rooms and hotels run in connection with railway stations on roads in this country usually contrasts unfavorably with that in Canada. The general practice in the United States is to sell hotel and eating house concessions to outside persons or concerns at each point and allow them to furnish such service as they see fit. Travelers in the United States often have unpleasant experiences in commercial establishments located in station buildings or adjacent to stations, which are known as "railway hotels" and officially recognized by the railway company, and a large part of the traveling public has come to think of eating in railway lunch rooms as a thing to be done only when unavoidable. The dining rooms in large terminal stations in this country often are good; but many even of these are very poor. There are railway hotels and dining rooms, especially on some of the roads in the Southwest, conspicuous among them being the Santa Fe's, that afford excellent examples of the good service that such places can offer. Typical among the good hotels on the Santa Fe are those at Barstow, Calif.; Hutchinson, Kan., and Albuquerque, N. M., and one of the very good resort hotels used by it as an advertising feature is one at Grand Canyon, Ariz.

The public has no right to demand that railways furnish anything but transportation. But travelers will often criticise the companies for not seeing that the incidental comforts of travel are easily available and praise them for providing these comforts, and there is an obvious advantage in getting all the praise and escaping all the censure possible.

THE FEDERAL VALUATION LAW.

AFTER several years' discussion of the subject a law providing for a valuation of all railways by the Interstate Commerce Commission has been passed by Congress. The enactment of such legislation a few years ago would have caused much concern among railway managers. It now gives rise to little or no apprehension on their part. The legislation has a dual purpose. One is to ascertain whether, as is often charged, the railways are over-capitalized. The other is to furnish a basis for the regulation of rates. The word "valuation" is currently used in two different senses. (1) A thing is usually deemed worth what it will sell for, and what it will sell for depends on the profits it will earn. (2) The sense in which the word valuation is used in the discussion of railway and other public utility matters is the ascertainment of what a property ought to be worth as a basis for determining what it ought to be allowed to earn.

Many persons, including most railway managers, do not agree that railway rates should be based on a valuation. One of their objections is that the plan is impracticable. Different railways compete for business, and the valuation placed on two competing railways may be substantially the same, while the amount of business handled by them is widely different. The rates between competitive points on the two must be the same, but on the same rates the two roads will necessarily earn very different profits. The answer made to this is that the entire situation should be considered, and rates so adjusted as to do justice to all the competing carriers. It is hard to see how by regulating rates thus on the basis of valuation equity could be done between all competing lines. A second objection made to the use of valuation as a basis for regulating rates is that rates should be based chiefly on the value of the service rendered to the shipper and the traveler, and not on its cost to the carrier, and that if the rates themselves are reasonable the profit made by charging them must be reasonable. Economists and regulating authorities, including the Interstate Commerce Commission, recognize the fact that the value of the service principle must govern to a large extent in fixing the relations between rates on different commodities and on the same commodity when

moving between different points. The purpose for which they have advocated valuation is to ascertain, not whether each individual rate is reasonable, but whether the rates as a whole are so. Regardless of whether valuation is or is not a fair measure of the reasonableness of the entire schedules of rates, it is evident that it is going to be used in the future as the main measure.

The popular impression is that the railways of the United States as a whole are largely over-capitalized, that they are paying a return on their watered stock and that they are charging excessive rates to do so. The railway managers deny that the roads as a whole are over-capitalized. The average net return on the total capitalization has never equaled six per cent. It follows, if the managers' contention is correct, that on the theory of those who have advocated valuation the rates charged are not excessive. Valuation having been adopted by law as one, if not the main, basis for the determination of the reasonableness of rates, it becomes important that any valuation made shall be fair. To be fair a valuation must include all of the factors that should be considered in determining what railway properties ought to be held to be worth.

It is gratifying that the bill passed by Congress seems to provide fully for a valuation that shall include all important factors. The law instructs the commission to ascertain the original cost to date, the cost of reproduction new, and the cost of reproduction less depreciation, and to present in its report an analysis of the methods by which these several costs are obtained and the reason for the differences between them, if any. The commission is also to ascertain and report separately all other elements of value, if any. This would include allowances for franchises, and going value, if the commission decided any such allowances should be included. One of the most important questions pertaining to valuation is how the land used for right of way and terminals should be appraised. Some contend that the appraisal should be based on the original cost, others that it should be based on what it would cost to acquire the land now. The valuation law requires both the original cost and the probable present cost to be found. It also contains a provision which will permit a carrier, in case of an appeal from the commission to the courts, to attack the valuation made by the commission and to present evidence to the court to show that the commission has erred in not giving weight to elements of value which the carrier believes should be included. Should the court uphold the contention of the carrier it will refer the matter back to the commission with instructions to revise its valuation so as to include the omitted elements. In brief, the provisions are broad enough to require the commission to give weight to all elements of value, and if the commission fails to do so to permit the roads to get orders from the courts requiring it to do so.

The large estimates that repeatedly have been made regarding the amount of water in the capitalization of the railways will lead many to expect the total valuation to fall far short of the total capitalization. It seems very much more probable that a valuation made in accordance with the provisions of the new law will exceed the net capitalization. There doubtless will be many instances where the valuations of individual roads will be less than their capitalizations. Probably, however, there will be many more important cases where the valuations will exceed the capitalizations; and there is much more ground for expecting that the total valuations will exceed the total capitalization than for expecting the opposite. Valuations of railways have been made in several states, and they have exceeded the capitalizations in more cases than the capitalizations have exceeded them. Furthermore, no valuations have been made in the states where the largest values are concentrated in big terminals. There are large terminals at the Twin Cities and Duluth in Minnesota, and on Puget Sound in Washington, and in both of these states the valuations exceeded the capitalizations.

Several state commissions are now engaged in making valuations. The federal law provides that the investigation to be

made by the Interstate Commerce Commission "shall show the value of the property of every common carrier as a whole and the value of its property in each of the several states and territories and the District of Columbia." In view of this provision it seems reasonable to expect that the state valuations now under way will be discontinued, or at least that no more will be undertaken. The cost to both the public and the carriers of making a single thorough appraisal will be large, and it would seem that no good can come from the expenditure that would be involved in duplicating the work.

THE PENNSYLVANIA AND THE NEW YORK CENTRAL.

BOTH the Pennsylvania and the New York Central & Hudson River earned in 1912 the largest revenue in their history. Both felt many of the same economic forces which are at work in shaping contemporary railroad development. While the effect of the same forces on these two eastern trunk lines is often widely different, and their ways of meeting new conditions can more often be contrasted than compared, it is, nevertheless, possible to get two independent points of view on the results of the working out of both the same federal and economic laws* by a study of the annual reports of both.

The Pennsylvania Railroad operates directly 4,025 miles of line. The Pennsylvania Railroad Company is the parent company for all of the Pennsylvania system. Through stock ownership directly or indirectly it controls or has affiliated with it all the lines which go to make up this Pennsylvania system, which comprises a mileage of 11,557, and which in 1912 had total revenues amounting to \$374,096,000. The present comments and figures, however, apply to only the operations of the Pennsylvania Railroad, which had total operating revenues in 1912 of \$174,608,000, which was \$17,120,000, or 10.87 per cent., greater than the revenues in 1911, there being practically no change in mileage.

The New York Central & Hudson River operates 3,791 miles of road. The New York Central & Hudson River Railroad Company is the parent company for all the New York Central Lines, which include approximately 13,000 miles. The figures given in these comments, however, apply only to the lines *operated*, the revenue from which in 1912 amounted to \$109,900,000, which was an increase of 5.7 per cent. over 1911, with practically no change in mileage. The Pennsylvania Railroad had operating revenues in 1912 of approximately \$43,000 per mile of road operated, comparing with operating revenues on the New York Central of \$29,000 per mile of road operated. The Pennsylvania gets an average ton mile rate on its freight of 5.83 mills, and a passenger mile rate of 1.962 cents. The New York Central gets a ton mile rate of 6.26 mills, and a passenger mile rate of 1.766 cents. The average ton mile rate on both the Pennsylvania and the New York Central was slightly less in 1912 than in 1911, due to changes in the character of traffic carried. There were no important changes in freight rates on either road. Of the total tonnage carried, 61 per cent. on the Pennsylvania is furnished by products of mines, and 47 per cent. on the New York Central.

The density of revenue freight tonnage per mile of all track, including sidings, is 2,245,000 on the Pennsylvania and 1,127,000 on the New York Central. The density of passenger mileage per mile of all tracks is 188,000 on the Pennsylvania and 203,000 on the New York Central. These figures, taken

in connection with a careful study of the accompanying map, give a general, but fairly vivid impression, of the difference between these two great eastern trunk line properties. The tangle of lines in the coal region north of Altoona gives an impression of competition for coal business which is accurate only if corrected by the additional fact that while the New York Central carries about 12,500,000 tons of bituminous coal a year, the Eastern Pennsylvania division alone of the Pennsylvania carries 31,990,000 tons, and the entire Pennsylvania 46,420,000.

The relative importance from the point of view of total revenues of a general improvement in industrial conditions to a railroad like the Pennsylvania, depending so largely on its coal and on products originating in the Pittsburgh district, and of an extraordinarily large crop and prosperous general business conditions to a road like the New York Central, which handles a comparatively large tonnage of grain and serves commercial cities rather than manufacturing cities, is well shown by the respective increases of nearly 11 per cent. in the Pennsylvania revenue and of between 5 and 6 per cent. in the New York Central revenue.

With its increase of nearly 11 per cent. in revenue, the Pennsylvania was able to save net \$42,154,000 available for dividends, which is greater by \$4,020,000, or — per cent., than the net in 1911. The New York Central had \$13,880,000 net available for dividends, which is less by \$1,420,000 than was available at the end of 1911. This widely different result in net is not by any means all due to disproportionately increased expenses on the New York Central, as will be explained more fully later.

The Pennsylvania operated in 1912 on a 72.53 per cent. basis and the New York Central on a 73.99 per cent. basis. The Pennsylvania's operating ratio was greater by 0.63 per cent. in 1912 than in 1911 and the New York Central's by 1.17. Of its total operating revenues the Pennsylvania spent 33 per cent. for maintenance in 1912, or 2 per cent. more than in 1911, and the New York Central spent 32 per cent. in 1912, or 1.6 per cent. more than in 1911. Transportation expenses consumed 36 per cent. of total operating revenues on the P. R. R., or 1 per cent. less than in 1911, and 37.2 per cent. on the N. Y. C., or 0.2 per cent. less than in 1911. The policy in regard to expenses, which is dependent to a certain extent on the disposition of the management, was the same on both the P. R. R. and the N. Y. C., and the trend of expenses over which the management has control only to a certain extent was the same on both roads; but both in the case of maintenance and cost of transportation the P. R. R. results are rather more striking than those on the N. Y. C.

Total operating expenses amounted to \$126,638,000 in 1912 on the P. R. R., an increase of \$13,410,000, or 11.84 per cent.; while total operating expenses on the N. Y. C. & H. R. amounted to \$81,311,000, which is \$5,611,000 more than in 1911.

After the payment of operating expenses and taxes the Pennsylvania had \$39,693,000 net, an increase over the previous year of \$3,755,000; while the New York Central had \$23,010,000, a decrease of \$118,000.

Despite the increases in traffic, which necessitated greater absolute expenditures for transportation proper, both roads were able to show lower ratios for these expenses to gross revenue. This is a very important fact. In 1907, when the railroads of the country were carrying the largest tonnage up to that period in their history, transportation expenses generally mounted up relatively more rapidly than gross revenue. Of course, weather conditions in the present winter up to the end of December were favorable; but it must be remembered that the calendar year includes January and February of last winter, months in which weather conditions were unusually severe over the whole country.

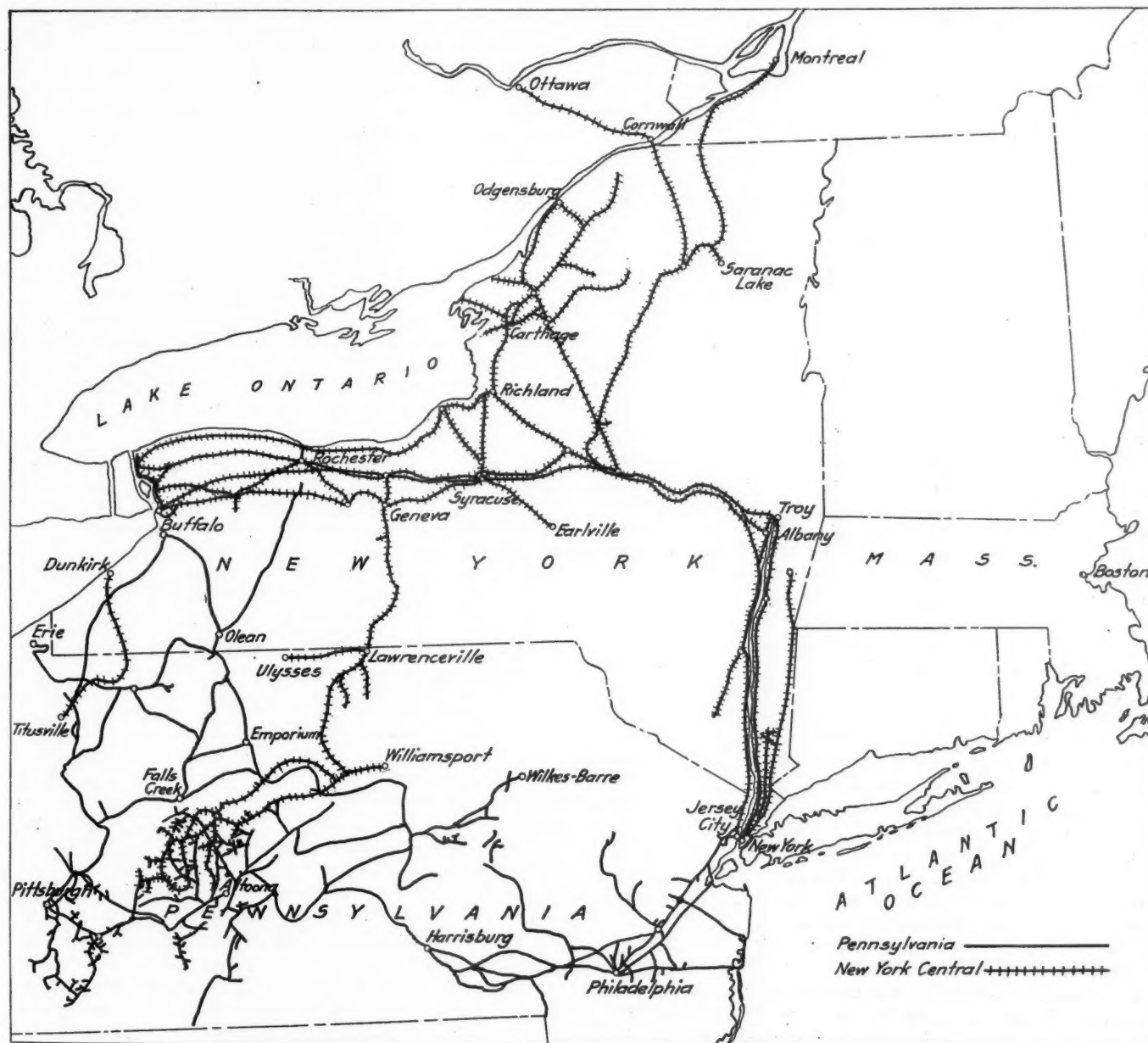
On both roads the increase in earnings was made the occasion for notably heavier expenditures for both maintenance of way and maintenance of equipment. The New York Central spent

*The New York Central & Hudson River and the Pennsylvania Railroad are not, of course, comparable. They are, however, instructive to use as contrasts one with the other. It should be borne in mind that no attempt is being made here to criticize one road by contrasting it with the other, or in fact draw comparisons at all in that sense. There are many figures that are used in these comments that differ widely between the Pennsylvania and the New York Central, which difference might be fully and instructively explained by an exhaustive description of conditions on each road. The same, however, could be said of two different grand divisions of the Pennsylvania Railroad itself. The fact is that the different lines going to make up the Pennsylvania Railroad are often as unlike each other in conditions as are certain divisions on the Pennsylvania Railroad and the New York Central, and the same is true as between different divisions of the New York Central and certain divisions on the New York Central and the Pennsylvania.

\$20,440,000 for maintenance of equipment, an increase of \$2,302,000 over 1911, and the Pennsylvania spent \$36,088,000 in 1912, an increase of \$5,508,000 over 1911. One is led to surmise that the New York Central *spent* more for repairs in 1912 than in 1911, partly because it felt that it could afford to be more liberal and partly because the increased traffic necessitated heavier expenditures, while on the other hand the Pennsylvania not only *spent* more for repairs because the increased traffic called for heavier expenditures, but a very appreciable part of the heavier appropriations for maintenance of equipment was due to heavier *charges* for depreciation.* Even in 1911 the P. R. R. was making very liberal expenditures for repairs.

In making a comparison as between different roads, of stand-

New York Central that a comparison of the total cost of maintenance of way and structures per road mile or per track mile is not of much value. On the other hand, when we take expenditures per mile of first, second, third, etc., track, exclusive of side tracks, for specific accounts, such as rails and ties, we get a rather interesting idea of what the two roads are doing. The Pennsylvania Railroad in 1912 spent on an average \$153 per track mile for rail renewals. This, of course, includes only the cost of delivery of the rails at the point of placing them in track, but not unloading them or placing them in track. The New York Central spent on the same account \$199 per track mile. The Pennsylvania spent \$459 per track mile for tie renewals, against the New York Central's \$295. The Pennsyl-



The New York Central & Hudson River and the Pennsylvania Railroad.

ards of upkeep, the tendency is generally to take average figures which contain so many variables that an accurate comparison is impossible. Conditions are so unlike on the P. R. R. and the

*The basis of this assumption is shown in the following table:

| | New York Central. | | Pennsylvania. | |
|--|-------------------|-------------|---------------|--------------|
| | 1912. | 1911. | 1912. | 1911. |
| Repairs of locomotives..... | \$6,776,432 | \$5,358,231 | \$12,124,823 | \$11,106,546 |
| Renewals and depreciation of locomotives | 1,799,015 | 1,405,870 | 2,547,474 | 1,114,267 |
| Repairs of freight train cars | 5,815,718 | 5,758,802 | 11,681,824 | 9,860,515 |
| Renewals and depreciation of freight train cars..... | 2,003,336 | 1,919,654 | 2,950,678 | 2,075,838 |

vania spent \$1,178 for roadway and track, which includes largely track labor, placing track material in track, policing, etc. The New York Central spent \$809 on this account.

The difference between the expenditures on the two roads for roadway and track is rather large, but is not so striking as the difference in expenditures for ties. An expenditure of \$459 per mile of track is a very heavy expenditure.

Naturally, with the much larger proportion of low grade traffic on the Pennsylvania we would expect to find a heavier average train load. It might be mentioned, however, in this connection, that the New York Central has no such grades to

contend with as has the Pennsylvania on its Western Pennsylvania division, since, however, the great bulk of the coal traffic moves east over the Eastern Pennsylvania division, with a ruling grade of .2 of 1 per cent., on the Pennsylvania, the average trainload figures would still be very much in its favor.

The revenue trainload on the Pennsylvania in 1912 was 685 tons, which is an increase over the average trainload in 1911 of 14.53 tons. The revenue trainload on the New York Central was 465 tons in 1912, an increase of about 35½ tons, or over 8 per cent. It is fair to point out that the greater part of the increase in train loading on the New York Central was due to an increase in the loaded car mileage, with an almost corresponding decrease in the empty car mileage. Car loading also was slightly better in 1912 than in 1911. There was an increase of 19,574,000 miles in loaded car movement and a decrease of 11,942,000 miles in empty car movement. Distinct gains in operation are indicated by a decrease of 686,000 miles in freight locomotive mileage, in the face of an increase in total ton mileage carried of 662,412,000 ton miles.

The Pennsylvania's increase in train loading is due to an increase in tons per loaded car, which averaged 27.45 in 1912, an increase of 0.86 tons. The average number of loaded cars in train was 24.97, a decrease of 0.26 from 1911, and the average number of empty cars was 13.39, a decrease of 0.48. The number of car miles per mile of all tracks, including sidings, gives a rough idea of the density of movement from an operating standpoint. In 1912 the Pennsylvania had a freight car density, if it may be so called, of 129,000; the New York Central, 95,000. On the other hand, the Pennsylvania had a passenger car density of 16,100, and the New York Central a passenger car density of 17,800. From any way of looking at it, the New York Central's passenger business bulks large as a factor of expenses and as an important difficulty in the problems of the operating department.

The New York Central is in the midst of a very extensive scheme of additions and betterments, part of which it has already at least temporarily financed, and therefore is at present bearing the interest burden. The Pennsylvania is on the threshold of extensive betterments and presumably of extensive new financing as well. In 1912 the New York Central & Hudson River spent a total of \$17,084,000 on additions and betterments, exclusive of what is being spent on the Grand Central Terminal. The more important details of this construction work is mentioned in our construction news columns. The net increase in the funded debt for the year was \$46,158,000. The principal part of this financing was done through the issue of notes and equipment trust certificates. There were \$20,000,000 3-year 4½ per cent. notes sold, and the N. Y. C. & H. R. share of the New York Central equipment certificates issued amounted to \$7,157,000. The Grand Central Terminal is being built by the N. Y. C. and H. R. and New Haven jointly. The New York State Realty & Terminal Company is interested in part in the financing of the Grand Central Terminal, and to this company the New York Central has advanced up to the end of 1912 \$23,370,000, the advances made during the year amounting to about \$1,560,000. In addition to these advances to the Realty company, the New York Central carries as a permanent investment \$29,961,000 on account of the Grand Central Terminal improvements. This is an increase of \$7,120,000. It is impossible and quite misleading to try to make a comparison of the costs of the Grand Central Terminal and the Pennsylvania station in New York City, because included in the Pennsylvania's costs are the costs of building the very expensive tunnels under both the North river and the East river and the Sunnyside yards on Long Island. The Pennsylvania thus gets besides the advantages of its terminal in New York a connection between its New York division and the Long Island Railroad, paying for the combined advantages a very heavy interest charge. The New York Central completed in 1912 the major part of its Grand Central Terminal, but the entire development will not be completed for some years. If, however, the plans of the company are carried out successfully, and at present there seems every chance that they will be carried out even more successfully than

the originators of the idea ever even imagined, the New York Central will get its entrance into New York almost interest free. The terminal itself was described in the *Railway Age Gazette* of February 14, and the plan for building offices over the track spaces and obtaining in rent sufficient income to pay interest charges on the terminal itself as well as its approaches was described in the *Railway Age Gazette* of March 15, 1912, p. 462.

The Pennsylvania, since the completion of its New York terminal, has had two or three years of intensive development during which time, however, no great new projects were undertaken. President Rea's remarks in regard to improvements on the property of affiliated companies include the statement that "the surplus property fronting on Seventh avenue between Thirty-second and Thirty-third streets, New York, owned by the Pennsylvania Tunnel & Terminal Railroad Company, a subsidiary of this company [the Pennsylvania], has been conveyed to the Pennsylvania Terminal Real Estate Company looking to its future development." This suggests the possibility of some such development as is being carried out by the New York Central. It will, however, probably be years before real estate in the neighborhood of the Pennsylvania terminal becomes valuable enough to hold out the same promise of success for paying interest charges through income from rentals as is the case at the Grand Central.

The great undertaking which the Pennsylvania is about to engage in is, as President Rea put it, in brief " . . . to provide increased terminal facilities and approaches [at Philadelphia] for approximately 20 years for lines which equal eight double track railroads." The Pennsylvania spent in 1912 a total of \$16,322,000 for additions and betterments, of which \$14,707,000 was on the main line system between New York and Pittsburgh. Of this \$14,707,000, \$5,494,000 was charged to income and \$9,213,000 to capital account, but this does not include any of this new work at Philadelphia.

President Brown, in his letter of transmittal with the New York Central report, makes a rather striking statement of the increases in cost of material. After pointing out that notwithstanding the fact that the New York Central handled the largest volume of traffic, both passenger and freight, in its history, and that the year was singularly favorable for handling traffic at a moderate cost, and that there were no extraordinary circumstances which called for unusual expenditures, and leaving the fact that the New York Central's net available for dividends was less by over 10 per cent. last year than in 1911 to speak for itself, he gives certain figures in regard to costs of equipment. He says:

"In October and November, 1911, contract was made by the New York Central Lines for 1912 delivery of 14,500 standard steel underframe 40-ton capacity box cars at an average cost of \$790 each. The best price obtainable for these cars for delivery in 1913 is \$1,075, an increase of \$285 per car, or 36 per cent., which would have made an increase in the cost of these cars of \$4,132,500.

"Two thousand five hundred standard 50-ton steel self-clearing hopper cars were contracted for at the same time at \$810 each. The price of the same cars contracted for in December, 1912, for delivery in 1913, was \$1,113 each, an increase of \$303 per car, or 37 per cent.

"Eight Pacific type freight locomotives contracted for in December, 1911, cost \$22,456 each; the price of locomotives, identical in every way, in December, 1912, for delivery in 1913, was \$26,030, an increase of \$3,574 per engine. Twenty Pacific type passenger engines for 1912 delivery cost \$24,780 each, the price for 1913 delivery is \$26,315 per engine, an increase of \$1,535 each.

"The aggregate increase in the cost of this equipment, if purchased in December, 1912, compared with the actual prices paid in the latter part of 1911, would amount to \$5,206,000 or 33 per cent."

Both Mr. Brown and Mr. Rea mention the finding of the committee which arbitrated the demand of engineers for increased rates of pay, and both agree that arbitration under the Erdman act is not satisfactory, although it is an enormous improvement

over leaving disputes to be settled by means of a strike.

Both the New York Central and the Pennsylvania reports contain rather interesting sidelights on what is regarded as the probable future needs of railroads in the East. President Brown points out that the New York Central, notwithstanding the favorable business conditions, earned a surplus after the payment of 5 per cent. dividends of only about 1¼ per cent. on its stock, and suggests that this is by no means enough to meet future needs. The Pennsylvania paid out of its \$42,154,000 net income only \$27,199,000 in dividends. All of the rest it put back into the property, definitely appropriating for this purpose all but \$1,661,000, which it credited to profit and loss.

The following tables show the principal figures for operation for the Pennsylvania and the New York Central in 1912 and 1911:

| PENNSYLVANIA RAILROAD. | | |
|--|---------------|---------------|
| | 1912. | 1911. |
| Average mileage operated..... | 4,205 | 4,018 |
| Freight revenue | \$127,578,202 | \$113,414,431 |
| Passenger revenue | 35,405,555 | 33,525,583 |
| Total operating revenues | 174,607,598 | 157,487,413 |
| Maint. of way and structures.. | 21,102,640 | 18,353,290 |
| Maint. of equipment | 36,088,367 | 30,579,967 |
| Traffic expenses | 2,312,400 | 2,143,147 |
| Transportation expenses | 62,895,553 | 58,046,751 |
| General expenses | 4,238,984 | 4,105,239 |
| Total operating expenses | 126,637,945 | 113,228,393 |
| Taxes | 7,128,535 | 6,826,070 |
| Operating income | 39,693,133 | 35,907,748 |
| Gross corporate income | 58,982,867 | 51,617,111 |
| Net income | 42,153,964 | 37,318,351 |
| Dividends | 27,198,918 | 25,950,857 |
| Reserve for additions and betterments | 6,000,000 | 4,000,000 |
| Appropriated for sinking funds, extraordinary expenditures and principal of equipment trust obligations, etc. | 6,293,942 | 5,662,497 |
| Surplus | 1,661,104 | 1,704,997 |
| NEW YORK CENTRAL & HUDSON RIVER. | | |
| | 1912. | 1911. |
| Average mileage operated..... | 3,791 | 3,790 |
| Freight revenue | \$65,101,510 | \$61,133,310 |
| Passenger revenue | 33,134,509 | 31,759,238 |
| Total operating revenues | 109,900,016 | 103,954,863 |
| Maint. of way and structures.. | 14,705,289 | 13,723,709 |
| Maint. of equipment | 20,440,446 | 18,138,771 |
| Traffic expenses | 2,316,427 | 2,180,206 |
| Transportation expenses | 41,052,202 | 38,935,031 |
| General expenses | 2,796,789 | 2,722,485 |
| Total operating expenses | 81,311,153 | 75,700,203 |
| Taxes | 5,902,521 | 5,447,759 |
| Operating income | 23,010,367 | 23,128,377 |
| Gross corporate income | 40,890,960 | 39,364,557 |
| Net income | 13,879,837 | 15,304,449 |
| Dividends | 11,136,465 | 11,136,465 |
| Surplus | 2,743,372 | 4,167,984* |

*In 1911 \$2,500,000 was appropriated from this surplus to cover replacement value of abandoned property, including buildings at the Grand Central Terminal.

NEW BOOKS.

Poor's Manual of Railroads, 1913. Poor's Railroad Manual Co., 535 Pearl street, New York. Price, \$10.

There is little new to be said about this excellent annual compilation of railroad statistics. It is the standard compilation of such statistics and its chief defect in the past has been that it has taken so long to get the figures together that they have been nearly a year old when published. The present manual contains figures for the fiscal year ended June 30, 1912. This brings the figures up very much nearer to date—in fact, the Southern Pacific annual report for the fiscal year ended June 30, 1912, appeared only a week or two ago. Government figures covering the same period will not appear for a number of months. Even with the elaborate statistics that the government now compiles, Poor's railroad manual continues to be almost the only handy source which is available for bankers, investors, railroad men and the general public to turn to for the figures for earnings, expenses, capitalization, etc., of all railroads. It includes, of course, railroads doing an intrastate business as well as those doing an interstate business. In addition to the figures which are given in the form comparable to previous years and which make a complete set of Poor's railroad manuals so very highly valued, there is no other source, government or otherwise, which contains the same complete history of railroads as is contained in Poor's manual. It is needless to say that a statistical library, if it is to include any book at all on railroad statistics, will include Poor's.

Letters to the Editor.

WHEN "ACCIDENTS" ARE NOT ACCIDENTAL; PLAIN WORDS FROM A SUPERINTENDENT.

ST. LOUIS, Mo., February 16, 1913.

TO THE EDITOR OF THE RAILWAY AGE GAZETTE:

In its report on the collision at Corning July 4, last, the Public Service Commission of the State of New York recommended, among other things, that the discipline be improved, and that greater care be exercised in selecting local transportation officers; and deprecated the shielding of undesirable men by the various organizations, which recommendations are most timely.

As cogently set forth in your editorial of July 26 last, "The Lesson of Three Collisions," the responsibility for laxity in discipline rests largely with the managers. The appointing to, and retaining in the positions of trainmaster, master mechanic, and superintendent, of weak and inexperienced men, and men of loose morals, is one of the underlying causes of poor discipline. Unfit officers will not only keep around them unfit men, but will actually cause a decrease in the efficiency of good men. The adage, "birds of a feather flock together," is more significant than some managements seem to think.

If a manager must find a place, or pension, for a friend or relative, by all means put him somewhere outside the operating department, or pension him absolutely. I know whereof I speak in this matter, having been in the ranks on a large system for a number of years. This road has changed managements frequently; and certain of the changes brought with the new managers numerous followers, a number of whom were made trainmasters, master mechanics and superintendents. So far as could be seen, these appointments were made simply on account of old acquaintance or to cancel obligations; certainly not on account of fitness. Among others whom I now recall were three men placed in the important position of superintendent who were depraved sensualists, with all that that term implies; a number of others who were inveterate gamblers and drinkers. One of these moral lepers held the position of superintendent on a heavy division until the citizens of the town where he made his headquarters actually petitioned the management for his removal; and this was not very long ago. What a farce to talk about discipline under such conditions!

Managers who sincerely desire the best of discipline can and do find men of high character and experience for the official positions. That accomplished, a long step has been taken toward the solution of the problem. Such men, properly supported, will gradually improve the discipline in the ranks, even under present conditions.

The indiscriminate overruling by the management of the superintendents in appealed cases of discipline, no matter how small and trivial the cases may be; and the reinstating of men discharged for cause, constitute one of the worst deadening influences. This, more than any other one thing, tends to weaken discipline. This practice has obtained on some roads to such an extent that the brotherhood committees appeal all except the most flagrant cases; and, in consequence, the local officers have been reduced to figure-heads in the eyes of the officers of the organizations; and also, necessarily, in the eyes of the employees. This has gone so far, that a discharge, as a rule, means, at the most, a suspension, and the manager very often justifies himself in his actions in thus overruling the superintendent by tacitly criticizing the officer for what was proper action in the premises. This, in turn, has the effect of making the superintendent over-cautious. The men are the first to perceive this, and those inclined to be careless go the limit in taking advantage of the situation.

Only the managers can correct this. By employing competent officers, and supporting them, they can quickly clear the air. As one effective means to that end, they should adopt a

system of discipline similar to the "Brown system," which is essentially a checking account; a certain number of net demerit marks meaning dismissal. With this system a careless man automatically will check himself out eventually; and when he is out, he should stay out. No exceptions should be made to this rule unless it can be shown that an error was made in the premises; and, withal, no officer short of the highest operating officer should have authority to reinstate, for any reason, a discharged man. I have heard it suggested that a commission should be appointed to act upon appealed cases; it occurs to me that it might be feasible for such a commission to act, under certain conditions, for more than one road. In railway work the most rigid discipline is necessary, and it should be uniform; and it should be made known that a man's general habits will be carefully observed, even though it be necessary to resort to surveillance to the extent of espionage.

Up to the present time about the only moral obligation required of employees by most roads is that they shall not drink on duty, or frequent places where intoxicants are sold. In many instances this rule is not rigidly enforced, for the reason that the local officer is not clean himself. A more dangerous man, by far, than the occasional drinker (and the drinker is a dangerous man) is the sensualist, who is on the street all day when he should be taking his rest, or, improving his time, or taking wholesome recreation. This man, whose home life is, usually, unpleasant, by his very mode of living weakens himself mentally so that he cannot concentrate his mind on a given thought. He gets along in a sort of automatic way, but, sooner or later, gets into trouble. We are all familiar with these characters. All students of even the elementary principles of psychology and character-analysis can put their finger on men of this kind on short acquaintance. The same observation applies to gamblers. The two vices usually go together. These men, the drinkers, gamblers and sensualists, are the careless men. It is they who are responsible for upward of ninety per cent. of the serious accidents; and the sad part of it is that, under present conditions, the local officer often has to wait for the accident to occur before he can get rid of the dangerous man. Even then, on account of the practice of managers reinstating men on leniency pleas, and over the protest of local officers, he is, in many instances, rid of the man for only a few months.

If the real truth were revealed, if the fundamental causes of serious wrecks were made public, it would be so appalling as to cause not only the managements, but the legislatures, labor organizations, and the public to recognize the great necessity of placing on engines and trains sober and temperate men—using those terms in their most comprehensive sense.

I have been in the ranks for upward of twenty-five years; I know intimately engineers, conductors and train despatchers who have been in continuous service on heavy single-track road for from fifteen to forty years, and who are essentially safe men; and they will continue to be such, for their mental and physical habits are correct. What these men have accomplished, even in spite frequently of lack of encouragement, others can accomplish, if they can have the proper environment. After all, there is no accident about these accidents; we have simply the effects of well-known causes. We have been too eager to find excuses; which is like giving a sick patient a palliative to deaden his pain, rather than a medicine that will remove the cause of his malady.

Start in by placing a premium on character and merit; place the right kind of men in the local positions. Such men can be found in the ranks on all roads. There is no great secret in the business, as the old switchman, or conductor or train despatcher would have us believe when they say that men for such positions "are born, and not made." The essential quality is just good common sense.

Reducing the proposition a little further, an ounce of rational precept, reasonably enforced, is worth a ton of insincere type-written instructions. I have never been a general manager,

and am not qualified to pass on many of the requirements for that position; but this much I feel convinced of; that, regardless of his brains, or his station, the manager should serve in the ranks a number of years in order to get the necessary seasoning. As has been said:

"All that you positively know is contained in your experience; all that you shall ever know, must pass through the gateway of experience, and thus become part of yourself."

SUPERINTENDENT.

THE CAPTAIN OF A FREIGHT-TRAIN CREW.

ROCHESTER, N. Y., February 24, 1913.

TO THE EDITOR OF THE RAILWAY AGE GAZETTE:

I have read the article entitled "The Lesson of Irvington," published in the *Railway Age Gazette*, February 21, and the editorial on the same subject, January 24. The latter closes with the following: "As we have said above, this is an illustrative case of a striking character. Railroad officers will need no assistance in drawing the moral." The former, among other things, says: "Every now and then some accident shows a general laxity throughout the service."

Who is responsible for this state of affairs, the officers or the employees? What has become of the commanding officer, with the title of conductor? Why was the custom of putting such an officer in command adopted in the first place? What were his duties up to a few years ago, and why is he not still the commanding officer in fact? What would be the fate of a captain were he to permit his regiment to meet the enemy while he remained in his tent? Are conductors of today responsible for having lost their identity, or is it due to a lack of organization, for which the officers are more responsible than the employees? What would be the result if the general of an army were to issue orders direct to the privates in the field, as is the custom on many railroads today? The result would be that the captain (conductor) would permit the privates under him to perform their duties without supervision.

On roads where the officers deal directly with the members of train and engine crews, instead of through the commanding officer—the conductor—trains are being handled today as they were in the beginning when the command of a train was undefined and doubtful. Experience developed that a commanding officer must be placed in charge, with the title of conductor, to see that the train was moved over the road safely, and that each man on the train under him performed his duties in accordance with the rules. The regiments of an army are under the eye of their superiors at all times, while the regiments on a railroad are scattered over hundreds of miles out of sight of their superior officers. For this reason, if for no other, the organization of a railroad should be more perfect than the organization of an army.

The commanding officer in charge, whether he be captain or conductor, should be in the lead when meeting the enemy, not in the rear. In other words, it is the duty of the conductor to see that main track switches are closed. This is especially true when the privates in the front rank, as in the case at Irvington, are inexperienced.

When that train pulled up to back on the siding, the conductor should have remained at the switch, permitting the two brakemen to remain with the train, which was equipped with air brakes. If necessary to protect by flag, the fireman should have been sent. If on too close time against the passenger train, it would have been better to stop on the main track until the passenger train could be stopped. I am a railroad pessimist, and believe in applying a preventive just before, instead of a remedy just after.

J. S. M.

FRANKFORT-BRUSSELS LINE PROPOSED.—A new railway is proposed which would shorten the route between Frankfort on the Main, Germany, and Brussels, Belgium. At present the distance between Frankfort and Brussels through Cologne and Aix la Chapelle along the left bank of the Rhine is 213 miles.

IMPRESSIONS OF HUNGARIAN RAILWAY PRACTICE.

Second Article—Considers the Building and Repairing of Cars and Locomotives and the Organization for So Doing.

By HENRY W. JACOBS.

The motive power and rolling stock of the Hungarian State Lines is cared for in two large central manufacturing and repair shops located at Budapest and at fifteen independent division shops. Manufacturing of standard locomotive and car parts and tools is carried on on a large scale at Budapest.

NEW EQUIPMENT.

New locomotives are built by a separate locomotive works, a private concern that the government took over and that has a rather interesting history. The Hungarians were for so many

way Lines as well as by the private railroad companies in Hungary and also to the construction of agricultural machinery. When, in the course of time, this concern got into financial difficulties the government, rather than see this business get into the hands of foreigners, took over the works, so that today practically all the locomotives and agricultural machinery used in Hungary are manufactured by this government works, keeping the industry at home and furnishing work for Hungarian subjects.

These locomotive building works are entirely independent of



Patient's Room in Private Invalid Car on Hungarian State Railways; Available for a Moderate Rental.

centuries a buffer people between the invading Moslem hordes and Christian Europe that through the tribulations of relentless conflict they have developed the strongest kind of self-reliant patriotism. In more modern times with the development of peaceful pursuits this same spirit of martial self-reliance has shown itself in workaday life. Instead of depending on the alien for manufactured products, such as railroad and agricultural machinery, the people established works of their own, and one of these large manufacturing works devoted itself to the building of locomotives, orders being placed by the State Rail-

the Railway Administration, the latter concerning itself merely with the repair of its equipment. Cars are built by another large independent works, appertaining to Ganz & Co.

EQUIPMENT REPAIRS.

At the central repair and manufacturing shops of the State Railway at Budapest, which come directly under the jurisdiction of the director of motive power and rolling stock, only the heaviest class of repairs are made. The division shops come under the division operating officers, and at some of the larger

of these also such heavy work as firebox replacement is done, although practically no manufacturing of new parts is done at any of these outlying shops.

In those fifteen division shops are the following aggregate facilities for the repair of equipment:

| | |
|-----------------------------------|-------|
| Locomotive pits | 537 |
| Boiler shop pits | 69 |
| Passenger car pits | 1,413 |
| Passenger painting shop pits..... | 207 |

These facilities take care of the following equipment:

| | |
|------------------------|--------|
| Locomotives | 3,430 |
| Passenger cars | 7,448 |
| Baggage cars, etc..... | 2,500 |
| Freight cars | 82,086 |

The force which handles this work is as follows:

| | |
|---------------------------|--------|
| Engineer inspectors | 120 |
| Foremen | 234 |
| Assistants | 255 |
| Workmen | 10,183 |

ENGINEER INSPECTORS.

A word of explanation is required as to the status of the engineer inspectors. These are men of the best technical

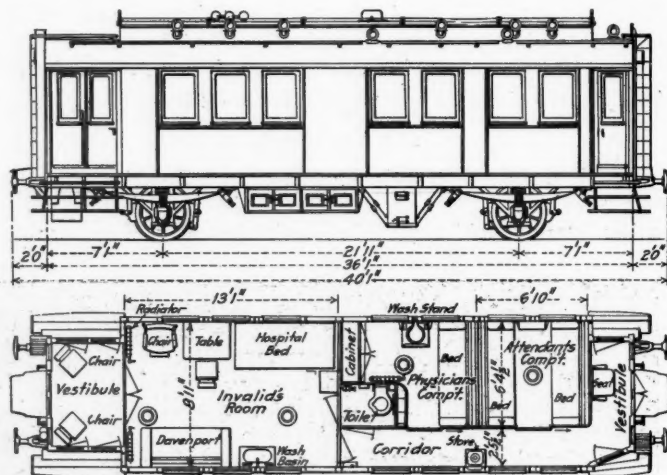


Surgical Supply Cabinet in Physician's Compartment on Invalid Car.

training, who have served four years in practical shop work. They report to the highest officers of the division to which they are assigned, being, therefore, independent of the local shop administration. The function of these men is to exercise the closest supervision and control over the quality and costs of doing the work and to be instrumental in correcting methods where either the cost or the quality of the work is not up to standard.

For instance, when a locomotive enters a shop the engineer inspector prescribes precisely what work should be done, there being already in effect standard schedules for the cost, the routing and the doing of each item of work. Departures are not made from the prescription of this engineer inspector without his authority. This supervision at the initial stage of the locomotive repair extends not only to the cost of doing the work,

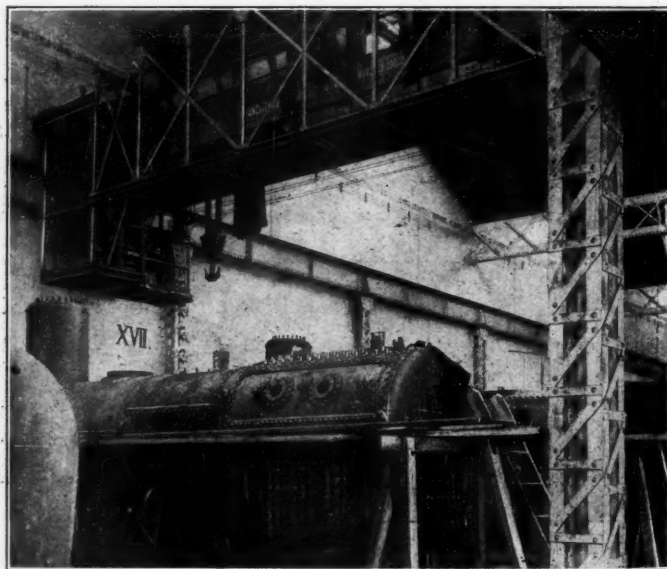
but is also concerned with the costs of the materials, the engineer preparing a detailed bill of material, whether the parts are to be repaired or new, to accompany his schedule of the work to be done. In this way the material costs are held down to the lowest figure which necessity demands. After getting the repairs on the locomotive well under way the engineer inspector follows up the work actually done in the shop, inspects its condition, sees that one gang does not hold another one back, sees



Arrangement of Private Invalid Car Used on the Hungarian State Railways.

that work is done within the standard cost, but is not slighted, and sees that the engine is returned to service as per the schedule before it was taken out of service.

A similar system upon a smaller scale obtains in roundhouse management, and due to the care that is exercised, both in general and in running repairs, engine failures are almost unknown. I must say that I find this condition of absolute reliability in the operation of the locomotives surprising in the



Boiler Shop with Traveling Crane; Hungarian State Railways at Budapest.

extreme. There is, however, a source of satisfaction in knowing that it is possible, with proper organization of working forces, to obtain such perfection in locomotive running and upkeep. Some of these one hundred and twenty engineer inspectors are, of course, allotted to supervision of car work, on the average of about one hundred workmen coming under the purview of one engineer.

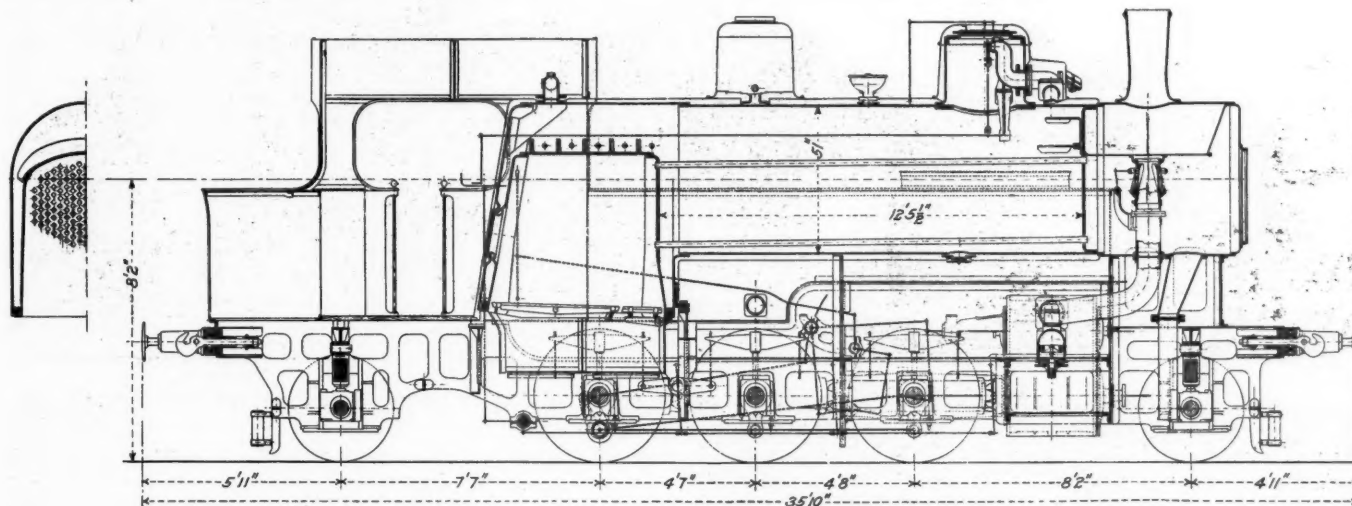
WORKING CONDITIONS.

The average ten hour days worked per month by the shop forces is 24.5. The average earnings per day are about \$1.40 for all classes of labor. This figure must not be compared with American shopmen's wages, for the reason that living and com-

It is worth something to a man to be secure in reasonable earnings in the present and for his declining years when he gives up active service.

PERFORMANCE SCHEDULES.

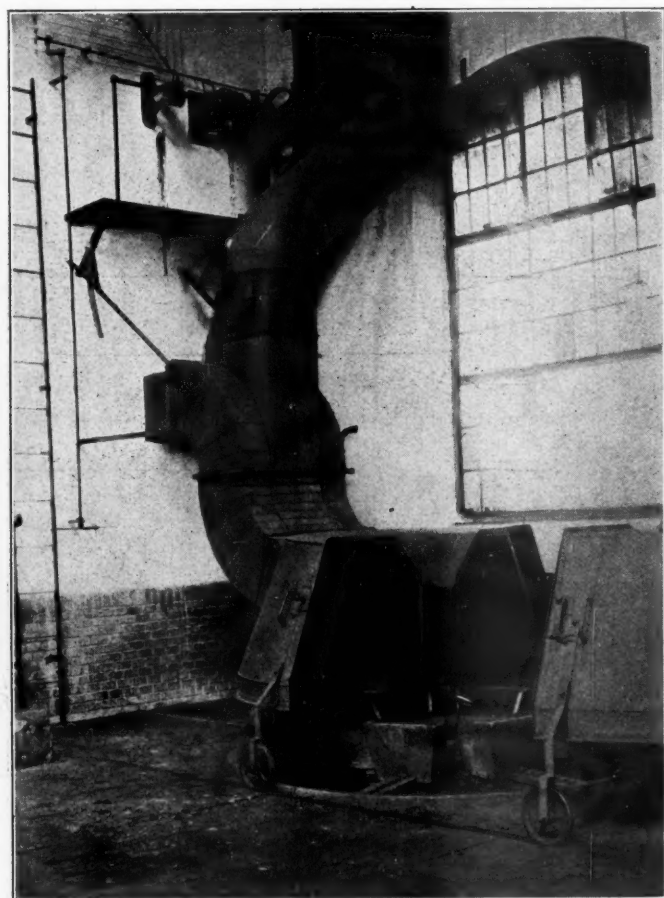
We spoke of the schedules of doing work in the shop. In



Application of Polonco Sectional Crown Firebox on a Hungarian State Railways Locomotive.

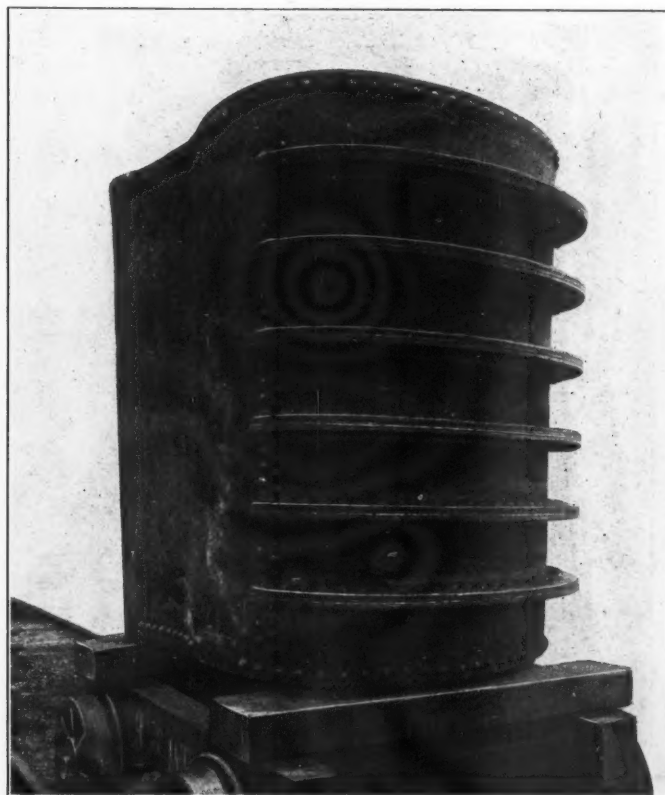
parative wage conditions in Europe are so different from those obtaining in the United States. Also, it must be emphasized that the conditions are better for the men in the way of providing

conjunction with these shop schedules are similar standard schedules of the performance of the equipment in service. A locomotive or a car is not due to receive general repairs until it



Locomotive Tire Heater in Roundhouse of Hungarian State Railways.

dwelling quarters at very low rents, and in the way of the provident and welfare institutions which care for the needs of the men and their families, both in active service and in old age.



Polonco Sectional Crown Firebox.*

*Three hundred of these, made of copper, are in use on the Hungarian State Railways. No crown stays or bolts are required. The first was built 30 years ago by the late Herr Polonco, an Austrian engineer. They are used in a bad water district where the staybolt, crown boiler requires washing out after 400 miles' service, while those of the Polonco type are washed out after 7,500 miles' service. The sections of the Polonco being unsupported by any connection to the wrapper are shaped like rectangular channels, instead of with a pressure resisting curve, and must be made of a heavy material. Notwithstanding this and the fact that the ordinary staybolt side sheets are joined to these sections by a seam near the crown, the maintenance cost is said to be so low as to outweigh these disadvantages.

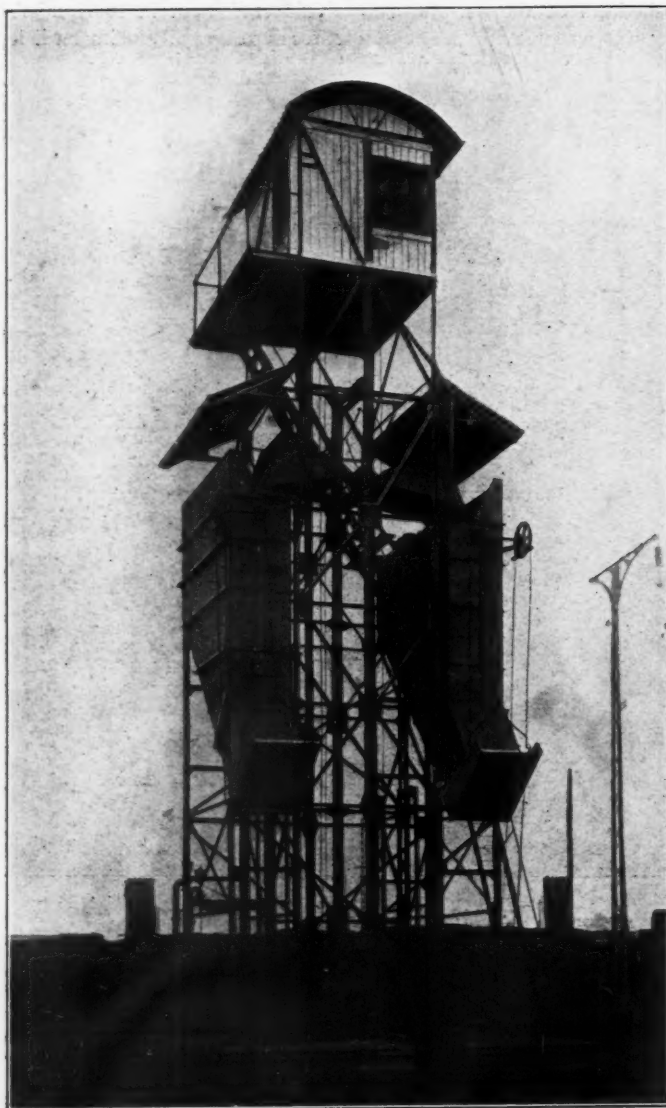


Residential Apartment Community for Shop Employees of the Hungarian State Railways.

has performed this service. Below are listed these standards of performance:

| | Between shoppings. |
|--|--------------------|
| Passenger locomotives | 56,000 miles |
| Freight locomotives | 37,000 miles |
| Old locomotives of the second class..... | 28,000 miles |
| Old locomotives of the third class..... | 19,000 miles |

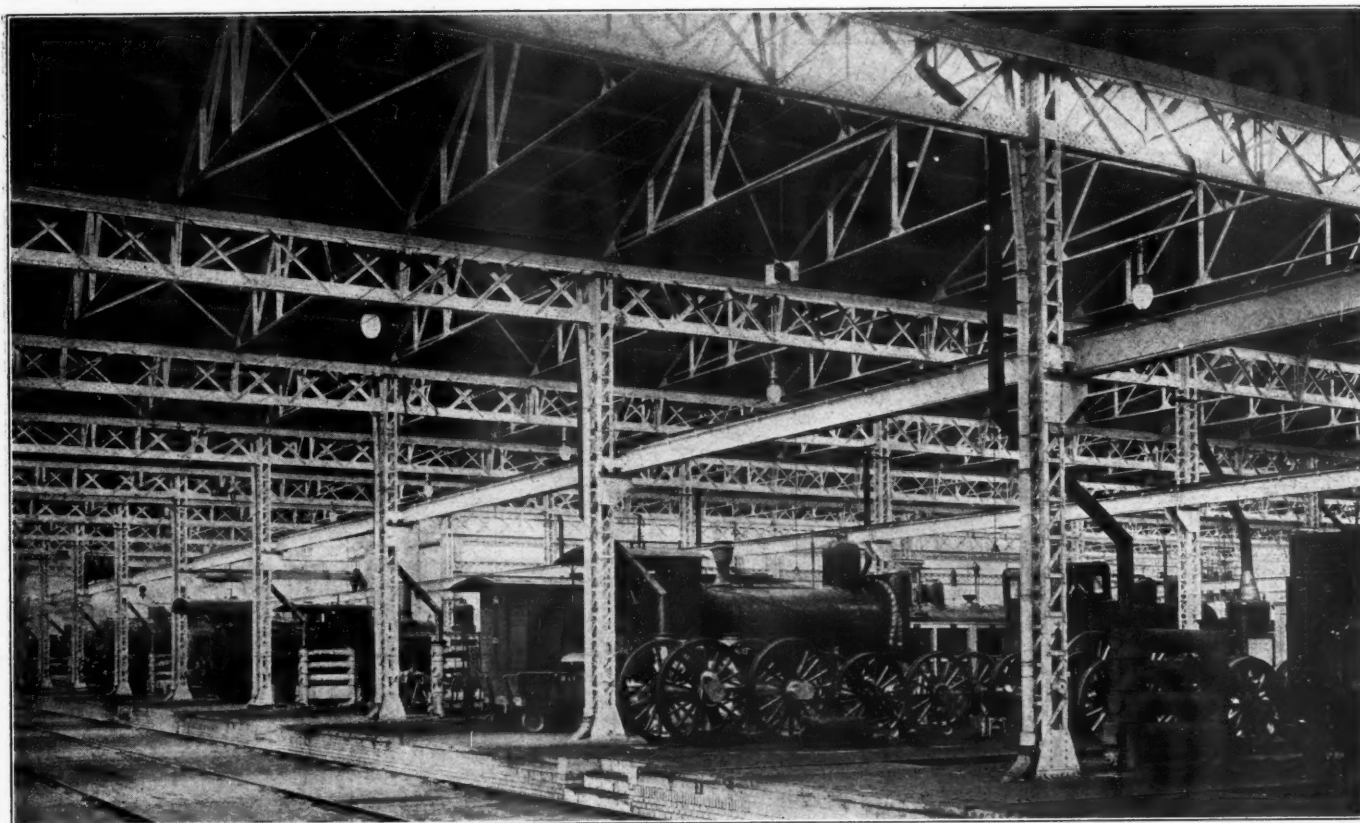
It should be explained that locomotives are classified according to age, and that the same treatment as to policy of repairs is not accorded to the older locomotives as is accorded to the newer ones. This division into grades according to age could very well be adopted as an American practice.



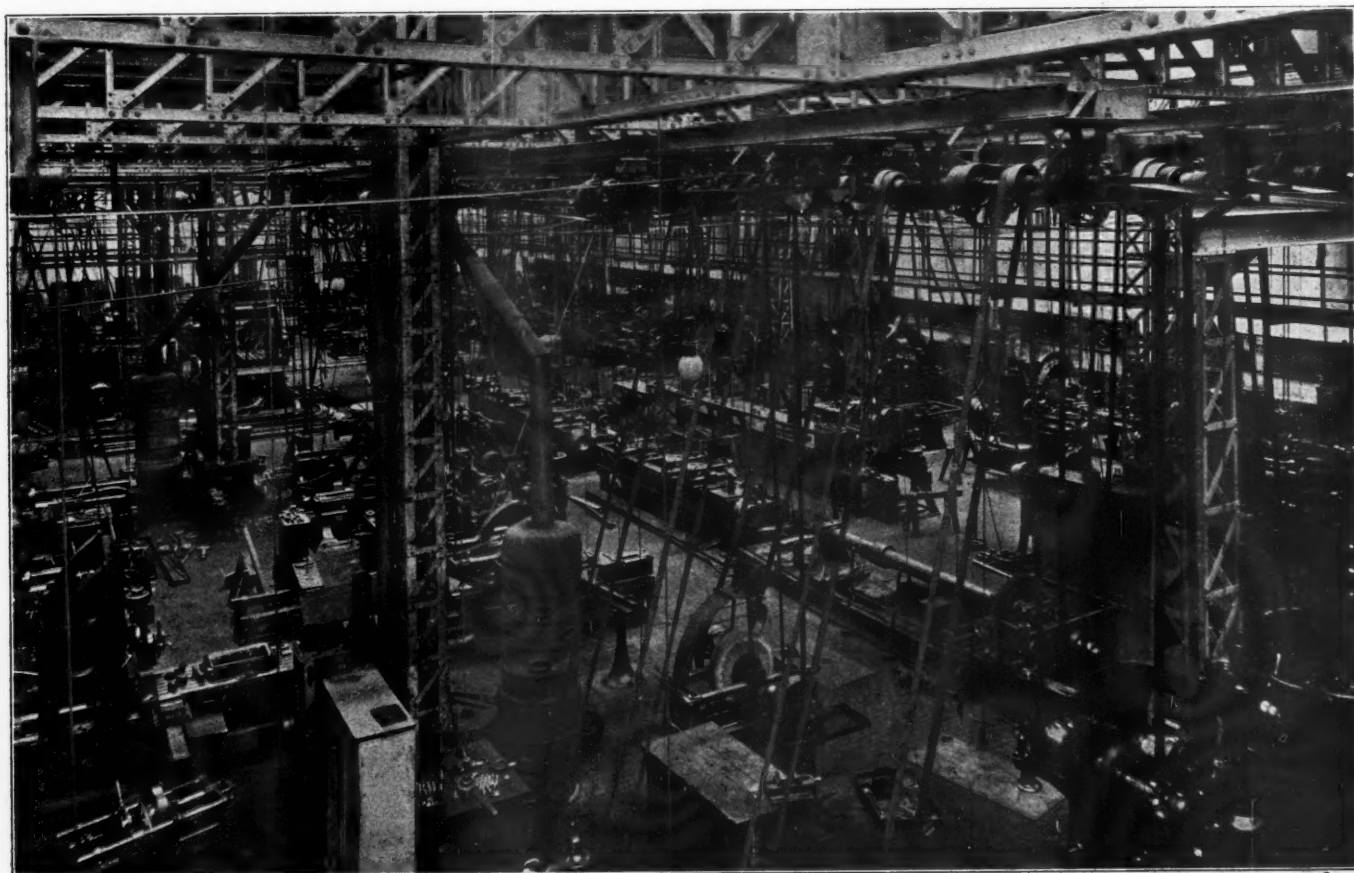
Steel Ash Hoist and Conveyor; Hungarian State Railways.



Engine House Water Tank 140 Feet High and Having 300,000 Gals. Capacity; Hungarian State Railways.



Locomotive Erecting Shop with Transfer Table Under the Same Roof; Hungarian State Railway Shops at Budapest.



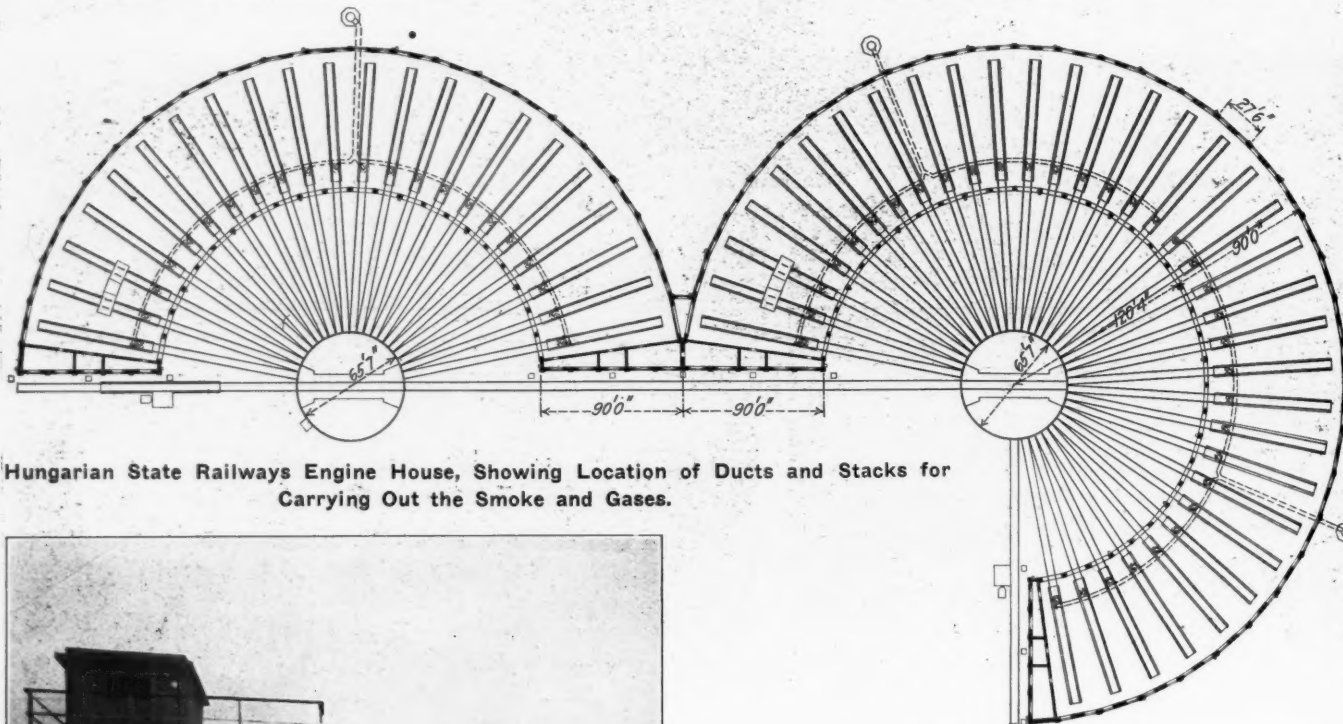
Main Machine Shop of the Hungarian State Railways at Budapest.

CAR REPAIRS.

Car repairs are made, not after so many miles of service, but at periodic intervals, as follows:

Passenger cars in fast service, without painting...every 4 mos.
 Passenger cars on through lines, without painting...every 8 mos.

Passenger cars on branch lines, without painting...every 12 mos.
 Passenger cars repainted.....every 5 yrs.
 Passenger cars wholly scraped, repainted and
 varnished, within and withoutevery 10 yrs.
 Freight cars, general repair, without painting...every 3 yrs.
 Freight cars, general repair, with painting.....every 6 yrs.



Hungarian State Railways Engine House, Showing Location of Ducts and Stacks for Carrying Out the Smoke and Gases.



Coal is shoveled from cars to the ground, and is re-shoveled into small tram cars which are hoisted by elevator to the coaling platform, from which they are dumped into the locomotive tenders.

Typical Modern European Concrete-Steel Coaling Station.

REPAIR COST SCHEDULES.

In conjunction with these standards of performance of the equipment are standards of repair cost upon a mileage basis, an allowance or allotment being appropriated for repairs. This allowance is divided between the car yards, shops and round-houses maintaining the equipment in a running condition, and the main general repair shops. This plan of allowance, or allotment, is so thoroughly worked out that, generally speaking the predetermined cost and performance are actually attained in practice. In those cases, however, where the performance is materially below the standard set, or where the costs are very markedly above or below the standard, an investigation is made as to the causes. It is not considered a favorable sign when costs are greatly below the pre-determined standard, as it is felt this work may have been done superficially, and the rigid inspection system is continually on guard against any such



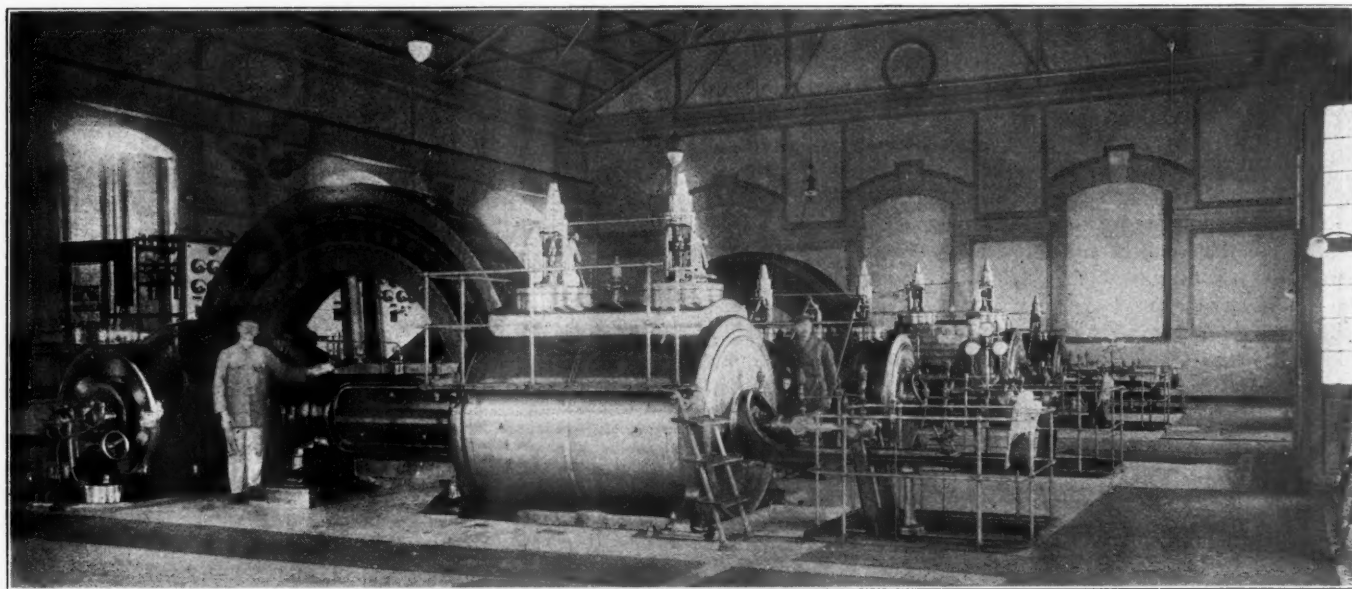
Locomotives face toward the center, and the smoke jacks carry the smoke and gases through the ducts to two high stacks outside, as shown on the drawing.

Interior of Engine House on Hungarian State Railways.

tendency. On the other hand, there is the reverse of a disregard for excessive labor costs. So closely do the standards and the actual costs compare that the amount of money spent upon the different classes of equipment, divided by the mileage performance of these classes, is a financial measure as to the existing condition of the equipment. The following table shows the

axles being under the middle of the car. The modern through passenger equipment is to a large extent composed of four axle cars, the trucks being somewhat after the American arrangement.

These figures are quoted merely as a matter of information, the wage conditions, conditions of service and characteristics of



Dynamos Driven by Gas Engines; Hungarian State Railway Shops at Budapest.

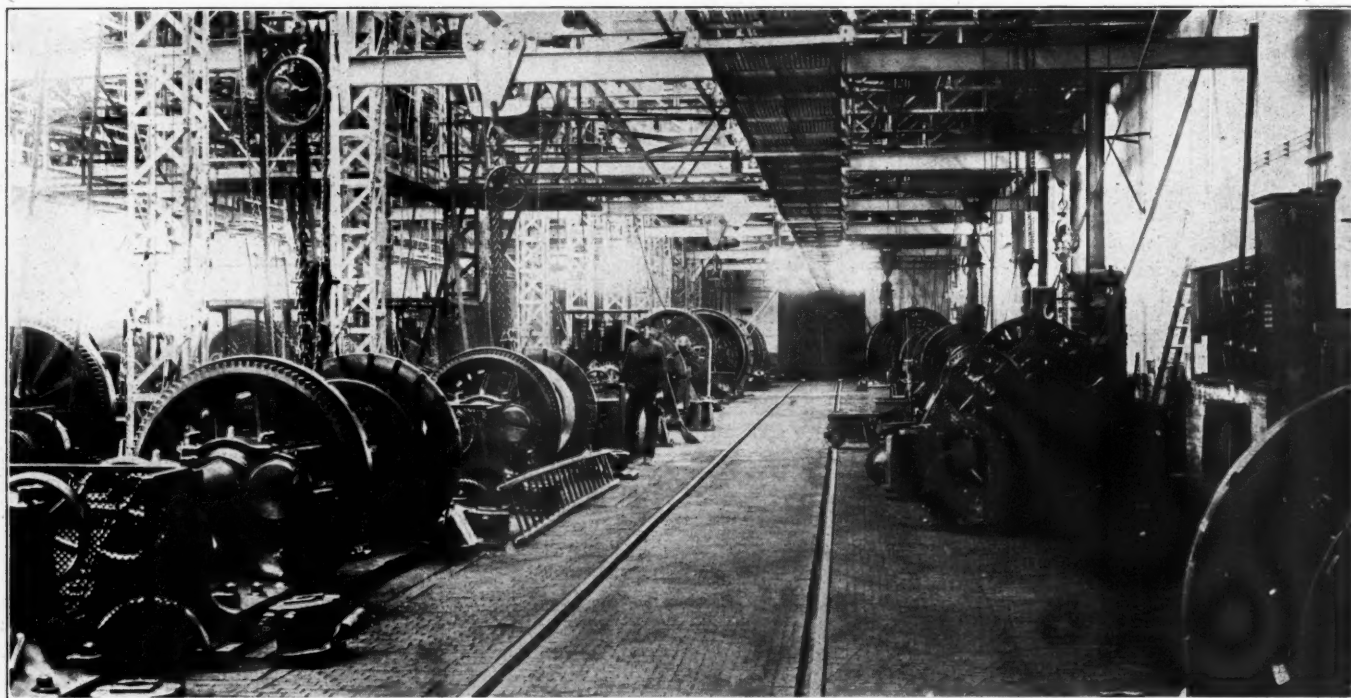
actual repair costs of equipment of the Hungarian State Lines per one hundred miles of line of railway:

| | |
|----------------------|--------|
| Locomotives | \$3.44 |
| Passenger cars | .33 |
| Baggage cars | .12 |
| Freight cars | .12 |

It must be explained that the figures above quoted as to car performance are not on the car mile, but upon the axle mile, most of the cars being four wheeled (or two axle), with a few equipped with two four-wheeled bogie trucks, as in American practice. Most of the passenger cars are also four wheeled, with a large proportion of six wheeled or three-axle cars, one of the

design being so different in Hungary as not to furnish intelligible bases of comparison with American practice.

SPANISH RAILWAY CONSTRUCTION.—The Minister of Fomento, Madrid, Spain, invites plans for constructing a 62-mile railway from Medina del Campo, in the province of Valladolid, to Benavente, province of Zamora. Plans must be received within four months. He also invites plans, to be received within six months, for constructing a 99-mile railroad from Segovia, province of Segovia, to Burgos, province of Burgos, by way of Aranda de Duero.—*Consular Report.*



A steel tired car wheel is turned for a labor cost of 20 cents, and a main driving wheel for 60 cents.

Wheel Shop at Budapest; Hungarian State Railways.

THE RAILWAY VALUATION LAW.

The law empowering the Interstate Commerce Commission to make a detailed inventory of all the property of all railways subject to the Interstate Commerce law which was passed by Congress last week was signed by President Taft on March 4, and an appropriation of \$500,000 is made for the purposes of valuation in the next fiscal year. The text of this law was printed in our last issue, page 397, subject to a few corrections. These corrections, which are in the matter beginning near the top of page 398, first column, are embodied in the following reprint of that part of the law:

"Except as herein otherwise provided, the commission shall have power to prescribe the method of procedure to be followed in the conduct of the investigation, the form in which the results of the valuation shall be submitted, and the classification of the elements that constitute the ascertained value, and such investigation shall show the value of the property of every common carrier as a whole and separately the value of its property in each of the several States and Territories and the District of Columbia classified and in detail as herein required.

"Such investigation shall be commenced within sixty days after the approval of this Act and shall be prosecuted with diligence and thoroughness, and the result thereof reported to Congress at the beginning of each regular session thereafter until completed.

"Every common carrier subject to the provisions of this Act shall furnish to the commission or its agents from time to time and as the commission may require maps, profiles, contracts, reports of engineers, and any other documents, records, and papers, or copies of any or all of the same, in aid of such investigation and determination of the value of the property of said common carrier, and shall grant to all agents of the commission free access to its right of way, its property, and its accounts, records, and memoranda whenever and wherever requested by any such duly authorized agent, and every common carrier is hereby directed and required to co-operate with and aid the commission in the work of the valuation of its property in such further particulars and to such extent as the commission may require and direct, and all rules and regulations made by the commission for the purpose of administering the provisions of this section and section twenty of this Act shall have the full force and effect of law, unless otherwise ordered by the commission, with the reasons therefor, the records and data of the commission shall be open to the inspection and examination of the public.

"Upon the completion of the valuation herein provided for the commission shall thereafter in like manner keep itself informed of all extensions and improvements or other changes in the condition and value of the property of all common carriers, and shall ascertain the value thereof, and shall from time to time revise and correct its valuations, showing such revision and correction classified and as a whole and separately in each of the several States and Territories and the District of Columbia, which valuations, both original and corrected, shall be tentative valuations and shall be reported to Congress at the beginning of each regular session.

"To enable the commission to make such changes and corrections in its valuations of each class of property, every common carrier subject to the provisions of this Act shall make such reports and furnish such information as the commission may require.

"Whenever the commission shall have completed the tentative valuation of the property of any common carrier as herein directed, and before such valuation shall become final, the commission shall give notice by registered letter to the said carrier, the attorney general of the United States, the governor of any State in which the property so valued is located, and to such additional parties as the commission may prescribe, stating the valuation placed upon the several classes of property of said carrier, and shall allow thirty days in which to file a protest of

the same with the commission. If no protest is filed within thirty days, said valuation shall become final as of the date thereof.

"If notice of protest is filed the commission shall fix a time for hearing the same, and shall proceed as promptly as may be to hear and consider any matter relative and material thereto which may be presented in support of such protest so filed as aforesaid. If after hearing any protest of such tentative valuation under the provisions of this Act the commission shall be of the opinion that its valuation should not become final it shall make such changes as may be necessary, and shall issue an order making such corrected tentative valuation final as of the date thereof. All final valuations by the commission and the classification thereof shall be published and shall be prima facie evidence of the value of the property in all proceedings under the act to regulate commerce as of the date of the fixing thereof, and in all judicial proceedings for the enforcement of the act approved February 4, 1887, commonly known as 'the act to regulate commerce,' and the various acts amendatory thereof, and in all judicial proceedings brought to enjoin, set aside, annul, or suspend, in whole or in part, any order of the Interstate Commerce Commission.

"If upon the trial of any action involving a final value fixed by the commission evidence shall be introduced regarding such value which is found by the court to be different from that offered upon the hearing before the commission, or additional thereto, the court, before proceeding to render judgment, shall transmit a copy of such evidence to the commission, and shall stay further proceedings in said action for such time as the court shall determine from the date of such transmission. Upon the receipt of such evidence the commission shall consider the same and may fix a final value different from the one fixed in the first instance, and may alter, modify, amend, or rescind any order which it has made involving said final value, and shall report its action thereon to said court within the time fixed by the court. If the commission shall alter, modify, or amend its order, such altered, modified, or amended order shall take the place of the original order complained of and judgment shall be rendered thereon, as though made by the commission in the first instance. If the original order shall not be rescinded or changed by the commission, judgment shall be rendered upon such original order.

"The provisions of this section shall apply to receivers of carriers and operating trustees. In case of failure or refusal on the part of any carrier, receiver, or trustee to comply with all the requirements of this section and in the manner prescribed by the commission such carrier, receiver, or trustee shall forfeit to the United States the sum of five hundred dollars for each such offense and for each and every day of the continuance of such offense, such forfeitures to be recoverable in the same manner as other forfeitures provided for in section 16 of the Act to Regulate Commerce."

Remaining paragraphs unchanged.

BRAZILIAN CONCESSION ALTERED.—The president of the state of Sao Paulo, Brazil, has signed a decree granting the petition of the Empresa de Colonizacao Sul Paulista, concessionaires for building the Sao Paulo-Prainha Railway, asking for an extension of three months to complete the definite surveys for the modification of the first, second and third sections of this railway, and also an extension of three months from the date of approval of the surveys of the first section for the initiation of construction work; and also for an extension to three years of the time allowed for the completion of the railway.

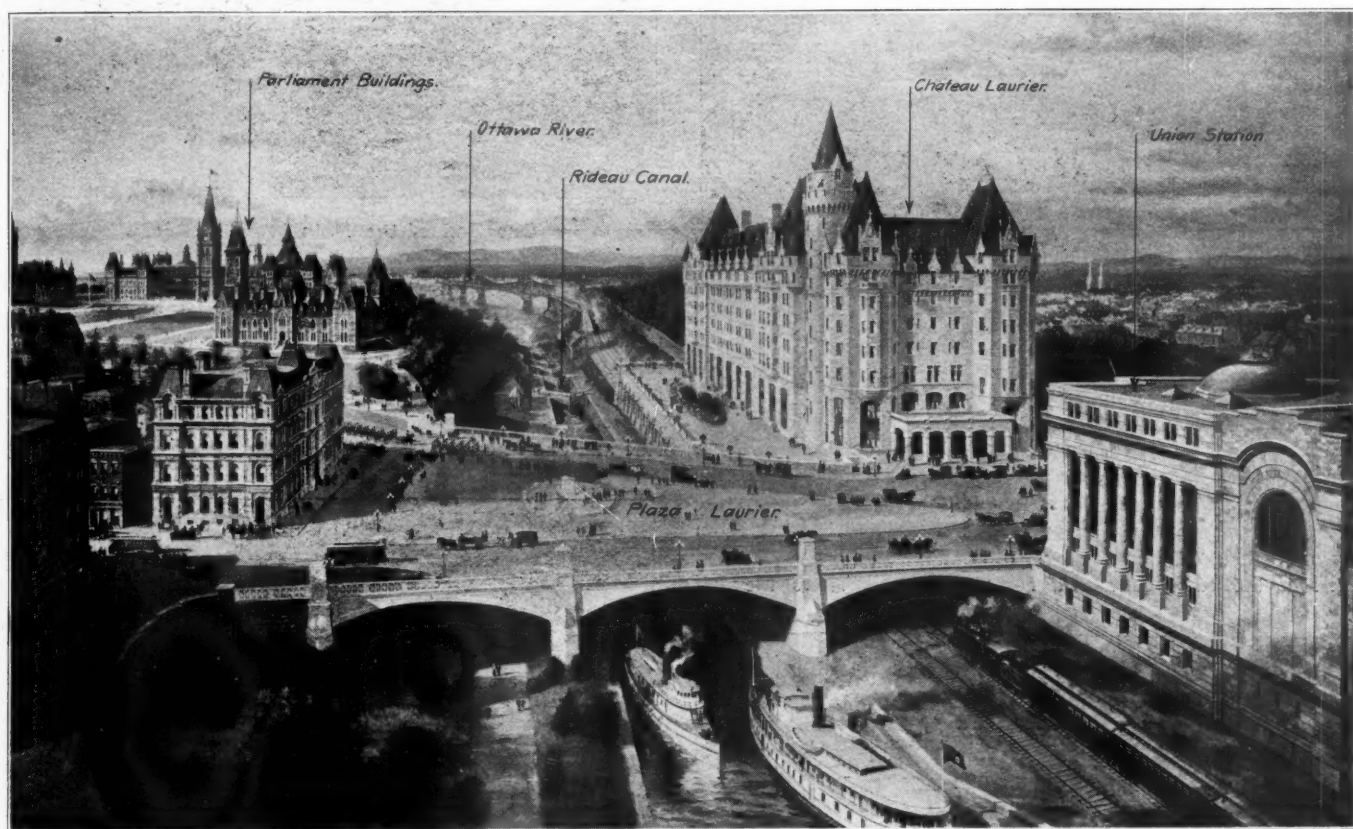
FUNDED DEBT OF MANILA RAILROAD, PHILIPPINE ISLANDS.—On July 1, 1911, \$2,996,000 bonds of the Manila Railroad were authorized. On October 18, 1911, \$940,000 certificates were authorized, and on January 22, 1912, \$1,000,000 certificates were authorized, making the total funded debt of this company \$4,936,000. These bonds are secured by a mortgage on about 142 miles of line and represent a cost per mile of about \$34,760.

GRAND TRUNK TERMINAL AT OTTAWA, ONT.

The New Union Passenger Station and Chateau Laurier, Which are Among the Finest Structures of Their Kind in Canada.

The terminal of the Grand Trunk in the city of Ottawa, which is used by all Grand Trunk trains and by through trains of the Canadian Pacific, is closely adjacent to the group of Parliament buildings which occupy a high point of ground in the center of the city overlooking the Ottawa river and the Rideau canal. In the design of the new station building and the hotel, which have recently been opened for service, particular care was taken to harmonize both the buildings and their approaches with these surroundings. Sparks street, the principal business street of the city, and Wellington street, upon which the Parliament buildings front, intersect about over the north bank of the Rideau canal. The station building and the Chateau Laurier, the new hotel, are located north of and adjacent to the canal, just across from the Parliament

the street level floor are used for station purposes, and the upper four floors for the offices of the Dominion Railroad Commission. Back of this portion of the building is the vaulted main waiting room extending the full width of the building and having its end walls carried up to the same height as the six-story section. Adjoining the waiting room on the rear is a three-story section containing station facilities, and back of this is a full width concourse which is as high as the three-story section and which opens directly to the train shed in the rear. As Sparks street is elevated in front of the station to carry it over the canal, the main entrance from this street opens into the second floor of the building. The carriage entrance and the approach for baggage, mail and express is at the northeast corner of the building opposite the concourse, where



Grand Trunk Terminal in Ottawa.

buildings, the station being east of the street and the hotel facing it west of the street. The triangular area between Wellington and Sparks streets over the canal has been laid out in a plaza to be known as the Plaza Laurier. This plaza and the adjacent streets are carried on a new concrete arch structure, under which passes the canal, two through railway tracks from the station and a park walk extending from the Parliament grounds. The railway tracks after passing under this bridge, are carried through an enclosed street railway terminal, the roof of which forms the broad terrace of the hotel. This covered electric railway terminal is reached by broad stairways from the street above. The back of the hotel overlooks the historic Major's Hill park which commands a view of the locks, river and Parliament grounds.

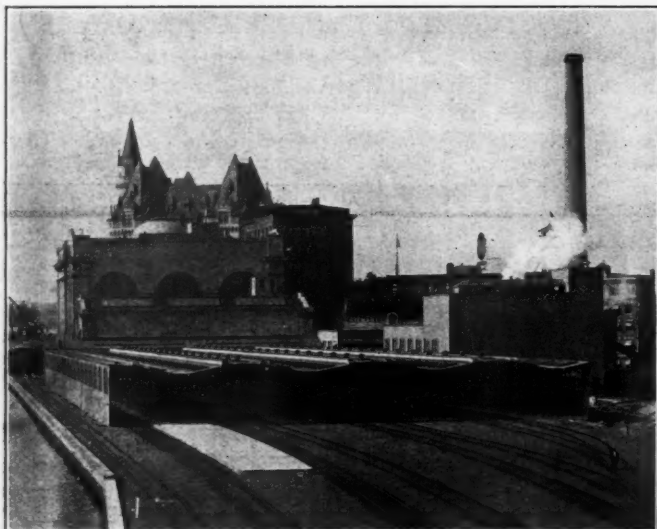
The station is 281 ft. 6 in. x 140 ft. 8 in. exclusive of the train shed covering the platforms, the main portion in front being six stories high with a basement. The ground floor and

the street level is practically at the same elevation as the tracks and the lower floor of the main building.

THE STATION.

The station is of fireproof construction, the foundation and walls being of concrete, granite and sandstone. The principal architectural feature of the six-story section is a colonnade of columns in the west and south elevations. The entablature and cornice supported by these columns are massive and simple, an impression which is carried out by the entire exterior. The main entrance is between two large piers and is covered by a marquee, above which is set a large clock. The three double doors open into a large entrance hall with marble tile floor, beamed ceiling and paneled walls, finished in imitation Travertine stone. On the right just inside the entrance is a branch of the Bank of Toronto and the division freight agent's office. Back of these offices is the suite of royal waiting rooms intended

for the exclusive use of royalty and the governors-general of the Dominion. This suite includes a lobby, a large waiting room and retiring rooms for ladies and gentlemen. The waiting room is elegantly finished in fumed oak and contains a large marble mantel and overmantel with an open fire-place, a massive table and numerous upholstered chairs. Clocks, telephones and complete toilet facilities are provided. These rooms have windows overlooking the canal and also have windows with massive metal grills opening into the main waiting room. On the left of the entrance hall is a large room in which commercial travelers can exhibit their samples, a feature which is thought to be entirely new in station design. The elevator hall and stairway leading to the office floors above



Rear View of Station and Train Shed.

are reached directly from the entrance hall on the left from the entrance. Two electric elevators serve this part of the building. On the upper floors in addition to the offices of the Board of Railway Commissioners, a well appointed court room is provided for public hearings.

From the entrance hall a flight of marble stairs the full



Entrance Corridor and Subway to Hotel from the Ticket Lobby.

width of the hall descends to a broad landing, from which a marble stairway at each side leads down to the main waiting room level. Between these two lower stairways is a marble balcony overlooking the waiting room, from which the voice

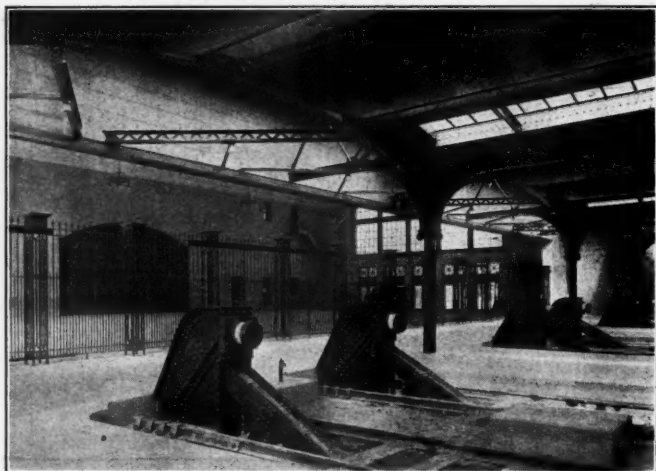
of the train announcer is distinctly carried to all parts of the room. Between the piers supporting this balcony is the entrance to the corridor and subway which leads from the waiting room level under the plaza to the lower floor of the new hotel, affording a very convenient means of reaching the hotel from the station.

The waiting room is 56 ft. 8 in. x 130 ft. 9 in., with a vaulted



One End of the Main Waiting Room.

ceiling 75 ft. high, which gives the room an appearance of much greater size. The floor is of marble and the walls are of imitation Travertine stone with four Corinthian columns of natural imported Travertine stone along each wall supporting the arched ceiling, which is of plaster, richly coffered. The room is well lighted, having three large arched windows in each side and one in each end. The artificial lighting is furnished by



Part Interior of Train Shed and Concourse.

four 13-light electric clusters on bronze columns, 18 10-light wall clusters, and 12 8-light tungsten clusters under art domes mounted on the back of each double bench. The bronze columns are set on large pedestals of light green marble containing ventilating ducts. The benches are mahogany, with marble risers, the contour of the seat being carefully designed to make the benches comfortable. The mounting of the bench lights and the shades provided make reading in these seats very enjoyable. At one end of the waiting room is the news stand, and at the other the telephone and telegraph booths, all of which are finished in quartered oak.

Adjoining the main waiting room on the ground floor and

located under the royal waiting room in the six-story portion of the building is the ladies' waiting room 46 ft. 8 in. x 58 ft., with a rest room and well appointed toilets. The waiting room and rest room have terrazzo floors with marble base and border, plaster walls and ceiling, and are furnished with mahogany seats and easy chairs. The waiting room can be entered from the subway to the hotel, as well as from the main waiting room. Adjoining the main waiting room on the other side of the corridor are the smoking room, men's toilet, barber shop and check room. The finish in the smoking room and barber shop is the same as in the ladies' waiting room. Ample ventilating ducts are provided to keep the air circulating in the smoking room. The toilet rooms are finished with tile floors, marble wainscoting and plaster walls and ceiling. The barber shop has four chairs and is equipped with the most modern appliances, including a small sterilizing plant for towel service. The subway between the station and the hotel is 10 ft. wide

tered from the main waiting room. Over the lunch room is the kitchen, which is modern in all its appointments, having 27 electric lighted refrigerators, an electrically driven ice crusher, dish washer, mincer and coffee grinder, ample gas ranges with numerous ovens, a complete ventilating and vacuum cleaning system, and a garbage refrigerator in which all refuse is frozen to eliminate odors and bacteria.

The concourse, which is entered through four double doors from the lobby, extends the full width of the building and is the same height as the three-story section adjoining it. It is amply lighted by large arched windows at each end and a large skylight in the roof. The walls are of imitation Travertine stone and the ceiling is coffered in the same style as that of the main waiting room. Five double doors at the north end of the concourse provide a convenient exit to the street, and a generous space has been allowed outside the entrance for a cab stand, with a large marquee over the entrance, allowing



Bush Train Shed; Grand Trunk Terminal.

and 9 ft. high. It has tile walls and floor, and is lighted by electric clusters from the ceiling.

On the east side of the main waiting room directly opposite and in line with the main entrance is a lobby leading to the concourse. On the north side of this lobby are four large ticket windows and two more are provided just around the corner opening in the main waiting room. The ticket office is large and provides ample room for all ticket cases and vaults, and the equipment for rapid handling of this business, as well as quarters for conductors and trainmen who use a door entering from the concourse. On the opposite side of the ticket lobby is the lunch room, having a seating capacity of 33 at the counter and 30 at the tables. The room is finished with a tile floor and plastered walls, the woodwork in common with that in all the other public rooms being of oak. The ticket office and lunch room occupy the first floor of the three-story section of the building mentioned above. Over the ticket office is located the office of the station master, and on the third floor are the divisional offices, all of which are served by an electric elevator en-

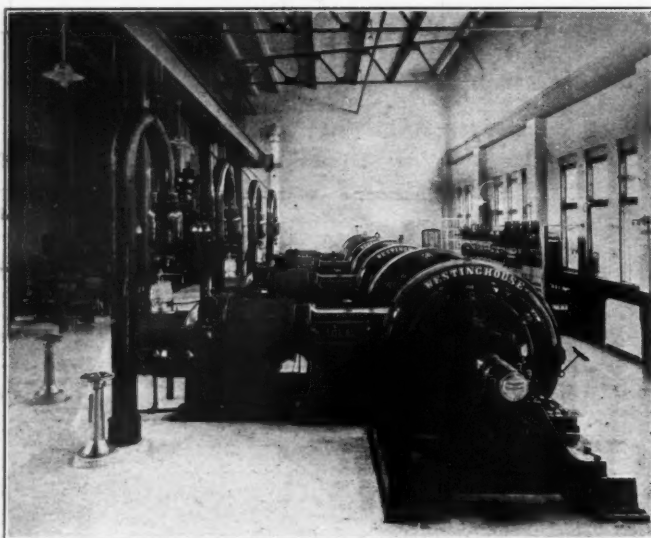
passengers to enter cabs without being exposed to the weather. A large clock is prominently displayed over the gates leading from the concourse to the train shed and platforms which, in common with the clocks in all public rooms and the big clock over the main entrance, is controlled electrically by a master clock.

The train shed covers seven tracks, six of which are stub end. The south side of the shed is offset from the main building to allow the south track to pass through the train shed and along the south side of the building under the plaza, as described above. The shed and the four platforms are 533 ft. 6 in. long. The shed is of the Bush type, supported by fluted cast iron columns on concrete pedestals, spaced 27 ft. center to center in each row. The tracks are 13 ft. center to center in each bay, and the platforms are 19 ft. wide, making the transverse distance between rows of columns 42 ft. 9 in. The lighting is by one tungsten light at each panel point of the shed structure. The shed is closed on the south side along the canal by a concrete wall with large elliptical windows, and on the

north side it connects to the baggage and express annex and the power house. One of the accompanying photographs shows the shed construction clearly. The baggage room is nearest the concourse and can be approached from the street side by trucks. Division offices are located on the second floor over the baggage and express rooms.

POWER PLANT.

The power house is very complete and modern, being well housed above ground in a light roomy building which is quite in contrast to the sub-basement so frequently used for power generation purposes. The boiler room at the east end of the building contains four 300 h. p. vertical water tube boilers, fit-



General View of Engine Room in Station Power Plant.

ted with Green chain grate stokers having a unit grate area of 56 sq. ft. There are two 5 in. x 5 in. vertical steam engines, either of which can operate the stokers. Coal is delivered in hopper cars on a track just north of the boiler room, being dumped into a sheet steel hopper from which it is conveyed to the double roll crusher by a short beaded flight conveyor. The conveyor and crusher are operated by 25 h. p., 220 volt motors. From the crusher an elevator takes the coal to a scraper conveyor, which distributes it to the bunkers. A spiral ash conveyor delivers ashes to the same elevator that handles the coal, a by-pass valve in the elevator head permitting the handling of both coal and ashes in the same elevator. The elevator delivers ashes to a bunker having a capacity of four carloads. The power plant chimney is of the Weber concrete type 150 ft. high.

In the engine room are four tandem compound high speed engines, with 14 in. and 24 in. x 16 in. cylinders, direct connected to 175 kw. 250-125 volt d. c. generators. Two of these units can carry the day load and three of them can easily handle the peak load in the evening. The three-wire distribution system is used, furnishing 250 volts for power and 125 volts for lighting. This distribution system covers all parts of the station building and the hotel. The oil separators and traps discharge into a sump below the engine room floor, which is provided with a centrifugal pump to care for the accumulation of water. Two Worthington boiler feed pumps, either of which is capable of handling the maximum requirements, take the feed water from a Cochrane open heater at a temperature of 212 to 220 deg., and supply the boilers through 4 in. extra heavy brass mains. A fire pump takes water from the city main at 45 to 50 lbs., and maintains 130 lbs. pressure on fire hose lines throughout the Chateau and the station building. Two duplex pumps supply water to the station and the Chateau at 85 lbs. pressure. An air compressor with a capacity of 250 cu. ft. of free air per minute furnishes the air for pneumatic tools

in the power house and for air brake testing and car cleaning in the train shed.

An ice-making plant, with a capacity of 5 tons a day is provided in which is made all ice used in the hotel and station and for icing drinking tanks on cars. Two duplex brine pumps circulate brine which is used in cooling refrigerators in the hotel and station. The supply and return pipes for this water are 4 in. in diameter, protected by a 3 in. cork covering. All the water used is taken from the Ottawa river, filtered through gravel beds and sterilized by a heat process installed by the J. F. Forbes Company, Philadelphia. There are three sterilizing units, each with a capacity of 1,000 gallons per hour, which is one of the largest installations of this kind in the country. The process consists of heating the water to about 180 deg. by the application of steam, all pathogenic organisms being killed at this temperature. Each unit consists of a cylindrical brass standpipe about 30 ft. high containing over 200 small tubes standing vertically, supported by a tube sheet at the lower end. A supply of raw water is maintained in these tubes at an elevation a little below the top of the tubes by feeding into a riser tube connected with the standpipe below the tube sheet. Steam pipes are inserted about 30 in. into the upper ends of the small tubes to supply the heat necessary to the process. The expansion of the water in the tubes when it reaches 180 deg. is just sufficient to cause it to overflow the tubes. This over-



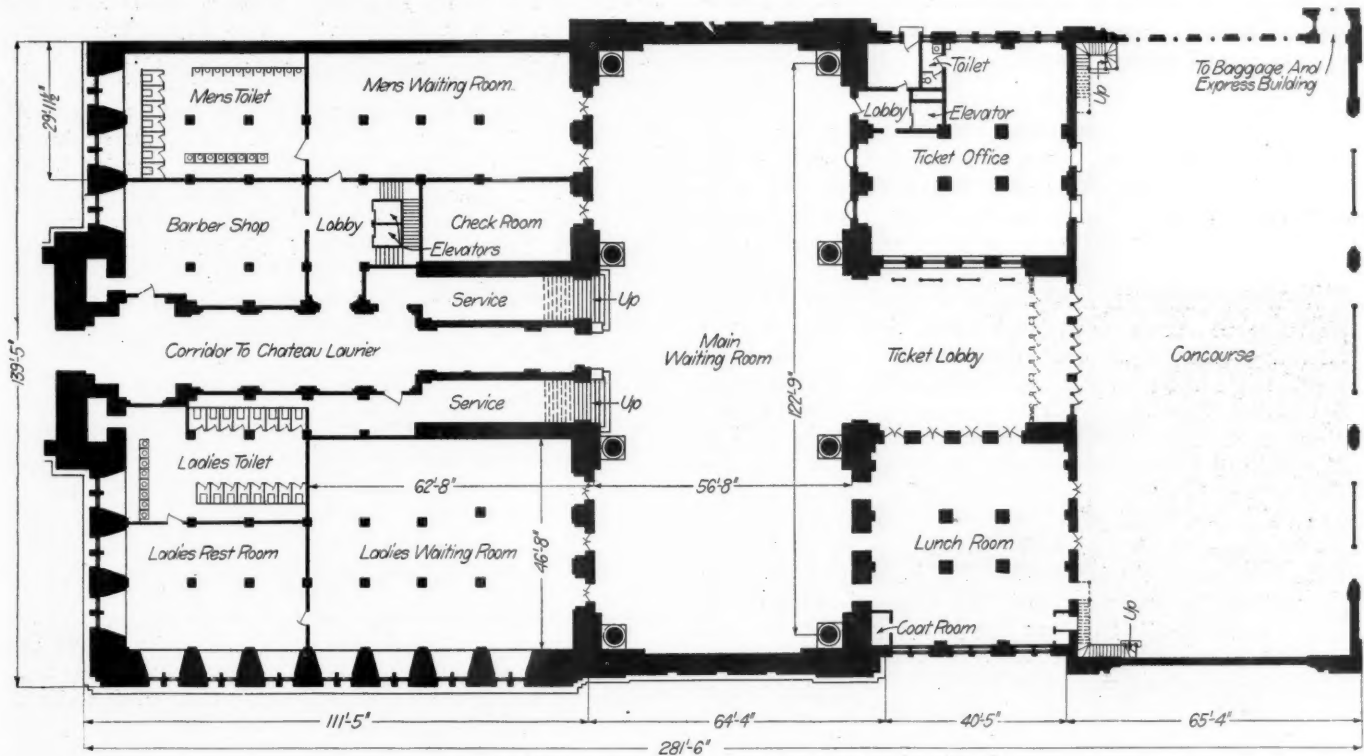
Chateau Laurier, the Grand Trunk Hotel in Ottawa with the Station in the Background.

flow runs down the outside of the tubes, which are filled with cold water rising, and by convection through the walls of the tubes the hot water descending gives up a part of its heat to the water inside, thus decreasing the amount of heat that must be applied to raise the raw water to the proper temperature, and also decreasing the amount that the treated water must be cooled before being used. The treated water collects above the tube sheet at the bottom of the standpipe and stands in a riser tube connected to the standpipe above the tube sheet, from which it is pumped to tanks on the roofs of the hotel and station. This sterilized water is used for all purposes in both the hotel and the station.

A tunnel 6 ft. x 7 ft. in cross section carries all pipes and wiring from the power house to the station and hotel. In the

basement of the new station are located the heating and ventilating fans, air-washing plant, water heaters for the toilet rooms and barber shop, storage tanks for drinking water and a

throughout, the corridors being divided into sections by fire doors to separate them in an emergency. No wood is used in the construction of the building except the door frames and



Floor Plan of the Track Level.

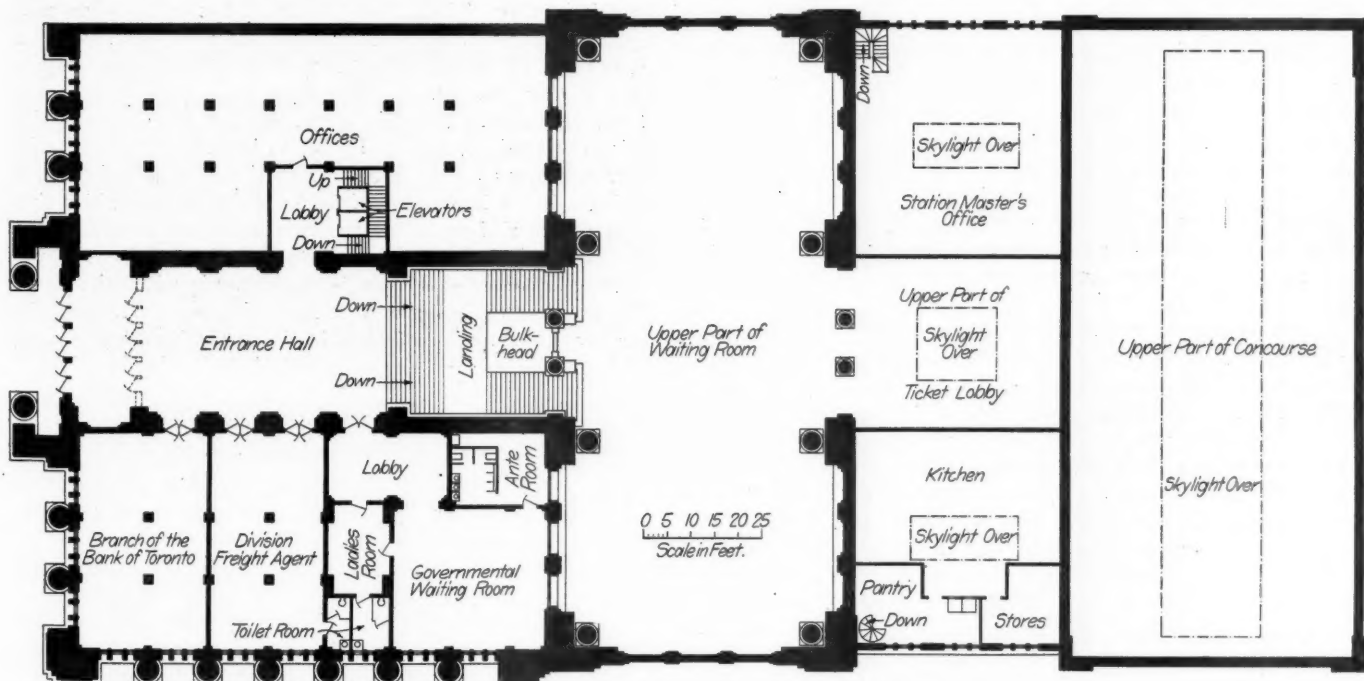
vacuum cleaning plant with connections all over the building and power enough to allow four cleaners to be operated at once.

THE CHATEAU LAURIER.

The Chateau Laurier is an eight-story L-shaped building facing the street and the canal, the main entrance being op-

baseboards. The main corridors lead directly to fire escapes.

There is a basement and sub-basement below the street level floor, the sub-basement containing the power equipment and storage rooms and the basement containing the grill, bar, kitchen, barber shop, manicuring parlors and toilet rooms. This basement connects directly with the subway from the station build-



Floor Plan of the Street Level.

posite the station and the longer dimension of the building being perpendicular to the street. The Chateau type of French architecture is used, the materials of construction being the same as in the station building. The hotel building is fireproof

ing. On the street floor the main entrance opens through a loggia into a large rotunda which is decorated in Francis the First style, with richly paneled and modeled ceiling. The walls are of caen stone, and the floors are laid in Napoleon grey and

Belgian black marble. The room contains a finely carved caen stone fire-place, and as a central figure a bust of Sir Wilfred Laurier, ex-premier of the Dominion, for whom the hotel is named. On one side of this rotunda is the lounge, or gentlemen's writing room, which is finished in simple Flemish style, with wainscoting of oak and richly modeled plaster frieze and cornices. A marble staircase leads from the center of this room down to the grill and bar room. Back of the rotunda is a palm room which is also used as a tea room. This room has a barrel vaulted ceiling and caen stone walls and floor of Gruby tiles, the scheme of decoration being Renaissance in character. Especially designed tables, chairs and settees in verde antique were chosen for this room in which tea is served every afternoon between the hours of four and six. Adjoining the rotunda opposite the lounge is the main office of the hotel with telephone exchange, telegraph office, elevators and main staircase. From the office a long corridor leads back along the side of the building to the main dining room, which occupies the corner of the main floor overlooking the park and the Rideau canal. This room is 83 ft. long, 50 ft. wide and 29 ft. high. It is decorated in the style of the Elizabethan period with oak wainscoting. This room also has a large fire-place above which is a mural painting of local historic interest. The corridor leading back to the dining room opens out on a broad terrace overlooking the locks on the canal. During the summer months awnings are provided on this terrace and it is furnished with tables and chairs, making it a very picturesque and enjoyable lounging spot. A view of the canal and the Ottawa river is best obtained from this veranda. On the mezzanine floor are located the ball room, banquet room, private dining rooms, ladies' writing rooms, ladies' parlor, balcony overlooking the rotunda, musicians' gallery overlooking the main dining room and cafe, manager's office, accountant and auditor's office and public stenographer's office. The decoration of the ladies' writing room is in the style of the Louis XVI period with paneled ceiling and French grey enameled woodwork. The banquet room has a seating capacity of 250, and is connected with the foyer, a large room facing the Plaza Laurier, which is used for assembling guests before banquets and during the intermission of dances. The ball room is 70 ft. long x 40 ft. wide and 20 ft. high. It is divided into bays with fluted columns which support massive beams spanning the room. There are wall decorations of large painted panels portraying classical subjects which harmonize with the brown and gold tone of the room. The ball room, banquet room and foyer are all decorated in the Louis XVI style, with furniture of Italian walnut.

The second, third, fourth, fifth and sixth floors have 53 bedrooms each, the furnishings of which are of the most modern type and include every known convenience in hotel management. On the second floor there is provided a royal suite which is elegantly furnished for the exclusive use of royal guests. On each floor particularly well located rooms are furnished in an attractive manner for parlor bedroom suites.

The construction of this complete terminal was begun under the direction of Howard G. Kelly, vice-president, formerly chief engineer, and completed by H. R. Safford, chief engineer, to whom we are indebted for the foregoing information. The architects were Ross and Macfarlane of Montreal.

ARICA-LA PAZ RAILWAY, BOLIVIA.—It is said that important petroleum deposits have been found, and proved of great value, at a place called Calacoto, which is one of the stations situated on the newly-built Arica-La Paz Railway. The same line has already considerably benefited by the act of the government in helping to establish a new town in the department of La Paz, called Caracaro, and contributing the sum of \$25,000 towards the acquisition of the necessary land. This is in a great wine-producing district, and in a few years' time its cultivated fields should serve to yield a rich and increasing traffic to the railway company.

WHAT REGULATION TAUGHT ONE REGULATOR.*

By JOHN B. OLMSTED,

Former Member, New York Public Service Commission, Second District.

I came into office with decided leanings towards the anti-corporation view of public utility questions. Some of my good friends among the corporation lawyers in Buffalo were kind enough to say that I was too much of an anarchist to be of much use as a commissioner. Want of knowledge as to the precise point involved I have found in many cases to be the principal cause of the prejudices I then entertained. Experience has taught me that there is another side to these questions, and one not lightly to be dismissed.

For instance, I held the view, as I imagine many another person holds the view, that the New York Central Railroad is grossly over-capitalized, and is paying dividends on a large amount of what is popularly known as water. When it came to my knowledge as a part of the evidence of a long investigation in the Buffalo, Rochester & Eastern case that the estimated cost of that company's 300 miles of railroad from Troy to Buffalo, planned without adequate allowances for terminal yards and facilities at either end, and touching but one or two large centers of population, was approximately one hundred millions of dollars, I came to the view that the New York Central, with its four tracks running through the heart of so many great cities of the State, with all the attendant advantages to freight and passenger business, and with approximately 500 miles more trackage, including the vast and valuable terminal facilities of New York City, might possibly, on a valuation measure up to a capitalization of five times that of the B., R. & E.

MANAGERS CONCILIATORY.

I have changed my mind also as to the attitude of most corporation managers towards the public. I had expected to find it recalcitrant and obdurate, which is a Latinized and "more tenderer" way of saying that it was made up of kicks and damns. I have found it almost uniformly, when expressed in the presence of the Commission, conciliating and willing to abide by the results of a fair hearing. The difficulty with me has been not so much in getting the corporations to do what I thought was right as to determine in my own mind what under all the circumstances of certain cases was right.

I am fully aware that this is not the popular view of public service corporations, nor do I wish to be understood as having discovered wings on the shoulders of the managers thereof. I say that a better knowledge of the conditions under which their business is carried on brings one to a more just appreciation of some of the difficulties under which they labor. I know well that there are many—very many—particulars in which the service which they are rendering may be improved, as I know well that there are very many particulars in which the business of every man in this room might be improved if an inquiry into it were started by a commission armed with power. Such a commission would be at once met with the objection that its suggestions required too much of an outlay to carry them out, and would be asked how it proposed to provide the funds for the improvements recommended. Let us be reasonable as well as critical. Let us realize that the management of one thousand men on a street car line is no less difficult than the management of an equal number in a factory, and that there are times when you have to do the best you can with the material with which you have to work.

"STRAIGHT" STREET MORE POPULAR.

I believe that in the past ten years a great change has come over the minds of men who are in the management of public utilities. There are still some left who cling to the old "public-be-damned" idea, but they are fast being supplanted, and the

*Extracts from an address made at Amsterdam, N. Y., just before Mr. Olmsted's retirement as a public service commissioner.

up-to-date railway or electric light official stands ready to listen to any reasonable complaint that may be brought to his attention, and, what is more to the point, to turn a deaf ear to proposals which call for abhorrent and forbidden methods in their accomplishment. I am not innocent enough to believe that all the dark, devious and easy ways of "getting there" have been wholly abandoned; but I do hold the view that the street called "Straight" is a much more popular thoroughfare than it used to be, and that the directors and agents of the corporations over which we have control are walking it with much cleaner consciences and with great gain to their self-respect.

RISKS OF INVESTMENT.

I have intimated that one great difficulty with certain corporations is the lack of means to carry out the improvements to service which their operating men admit would be advisable and desirable. On this point some figures from our last annual report may be illuminating. Out of 78 steam railroads reporting to the commission in this State, only 27 paid any dividends for the current year. Out of 364 electric railroads, light, heat and power, and gas corporations, 237 paid no dividends. In 1909 it was 237 out of 310, so that conditions are improving some; but the figures are significant. They are contradictory to the general impression that dividends are the foundation upon which all public service corporations are erected, and they have a sobering effect upon an official who starts in with the idea of building Rome—or even Schenectady—in a day.

The consideration of them has not swayed the mind of the Commission where conditions have become intolerable or even irritating; but they have at times prevented the attainment of ends which otherwise might have been ordered.

I know that these views are not wholly popular, and I know that in certain quarters the idea prevails that a public service commissioner should be pictured with a knot of thongs to lash the sides of all the hated corporations, irrespective of their merits or deserts. In my view that savors too much of "Donnybrook Fair." I like the expression of President Taft, who quietly reminded his hearers on one occasion, as I recollect it, that the phrase "all the people" means just what it says, and that "all the people" included also the corporations, which are made up of people just as much as a municipality is.

EVEN-HANDED JUSTICE.

The Public Service Commission is organized to hand out justice as near as it can determine it, both to shippers and to carriers, to consumers and to producers, and if it has attained some success in its work of the last five years, it has done so by a strict adherence to that view, and not by spectacular brandishings of the "big stick." It has accomplished more good by getting both parties before it, pointing out the strength or weakness of opposing views, and then appealing to that sense of fair play

which is inherent in every man, than it ever has by a display of the tremendous powers which the law undoubtedly confers upon it.

AN AMERICAN FREIGHT CAR FOR USE IN GERMANY.

The Pressed Steel Car Company has shipped an all-steel general service gondola car to Heidelberg, Germany, which is believed to be the first case on record of a steel freight car of standard American design and construction being exported for use on the railroads of Germany.

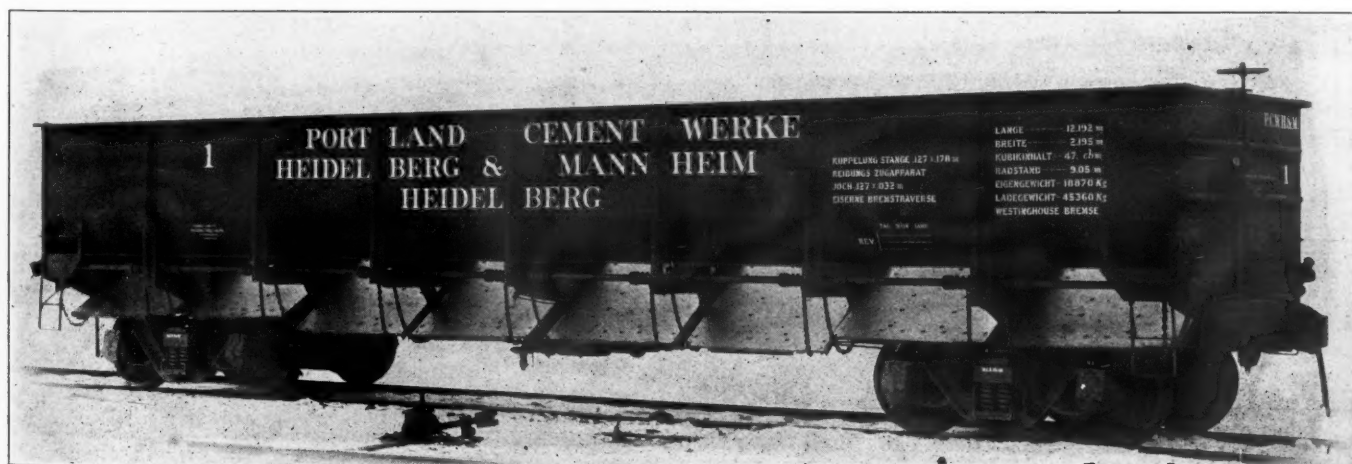
Last autumn Frederick Schott, president of one of the largest German cement manufacturing companies, came to this country on a tour and while here made a careful study of freight cars in use in this country, with a view of ascertaining what advantages, in certain phases of transportation, the American types might possess over those in general use in Europe. For his particular purpose a car that could handle crushed stone, coal or other material that required dumping, as well as cement in bags or barrels, best loaded on a flat car, possessed many advantages.



Interior of General Service Gondola Car.

Mr. Schott therefore decided on a general service type of car and placed an order with the Pressed Steel Car Company for one of the standard cars of this kind manufactured by them.

The car, as will be seen from the illustration, is equipped with 16 drop doors, which are operated by a creeping shaft device, so that when closed they rest on a steel shaft and make a flat and rigid floor. The car weighs about 41,500 lbs., is 41 ft. 6 in. in length and is of 100,000 lbs. capacity. Air brakes, couplers, truck frames, bolsters and all other specialties are of American standard practice.



American General Service Gondola Car Built for Use in Germany.

THE EFFECT OF BLOCK SIGNALS AND AUTOMATIC STOPS ON ACCIDENTS.*

By A. G. SHAVER,

Signal Engineer, Rock Island Lines.

It is to be regretted that the statistics of the Interstate Commerce Commission do not show exactly what accidents block signals would probably have prevented. Of the causes for train accidents, rear and butting collisions and broken rails may be considered as almost wholly preventable by block signals. Since there is some doubt as to just what is included under miscellaneous collisions, irregular track, derailments due to miscellaneous defects in roadway and derailments due to miscellaneous causes, the accidents so classed will also be considered as not having happened if the trains had been operated under block signals, although it is probable only a small percentage could have been so prevented. Of all these: rear collisions killed 117 and injured 2,019; butting collisions killed 157 and injured 3,136; miscellaneous collisions killed 100 and injured 2,656; broken rail derailments killed 52 and injured 1,065; irregular track killed 15 and injured 743; miscellaneous derailments due to defects in roadway killed 14 and injured 317; and derailments due to miscellaneous causes killed 129 and injured 1,663. The total of these is 584 killed and 11,599 injured, or 5.5 per cent. and 6.8 per cent., respectively, of the total killed and injured from all causes.

In the Interstate Commerce Commission report of block signals in service, as of January 1, 1912, 169 railroads report 176,847.7 miles of passenger lines (railways where more than one train is in operation at a time), of which 20,027.9 miles of two or more tracks and 56,381.8 miles of single track railway are equipped with block signals. Of the 43.2 per cent. of total passenger lines equipped with block signals, 11.49 per cent. are equipped with the automatic and 31.71 per cent. with the non-automatic system. This involves an approximate installation cost for the block signals in service of \$48,300,000, and for those yet to be installed to completely equip all passenger lines, assuming the installation of automatics and non-automatics to continue in the same ratio, of \$54,800,000, or a total of \$103,100,000. There is also involved not less than an annual upkeep and operating expense for those block signals now in service of \$10,000,000 and for those yet to be placed in service of \$12,000,000, or a total of \$22,000,000.

The block signal system as a means of preventing certain classes of train accidents is now generally recognized, and many railways are installing it along with other improvements as fast as their finances will permit. Several bills requiring the block system to be used are now pending in Congress. The best and fairest of these is the Esch bill. With a few changes and some modifications the railways could very well accept it. It is doubtful if there is any particular objection on the part of the railways to reasonable block signal legislation. Indeed, some railway managers have expressed themselves as in favor of it, for it would help them in obtaining the necessary money for installation and would compel those roads which have as yet done nothing to get busy.

During the last several years, there has been considerable agitation which would require the railways to install and use a system whereby the control and stopping of a train will be taken out of the hands of the engineman in case he fails to act when the necessity for controlling or stopping his train exists. This has continued, too, despite the fact that many of the accidents occurring would probably never have happened if an adequate block system had been in use.

An ideal train control system is one that will give the same results in service as a careful engineman. Thus far no such system seems to have been developed for general use, though hundreds of inventors have been at work on the problem and thousands of schemes have been patented. Most inventors seem to work with the idea of stopping trains, rather than of keeping

them going safely, which is what the public really demands. Enough has been learned as to the probability and practicability of such devices to lead some signal engineers to conclude that the total cost for installation, maintenance and operation would be at least equal to that for block signals.

There is no difference between the automatic train control and the block system as to the results to be accomplished. Automatic train control is merely an agent to do what the engineman should do. The "surprise checking" on those roads where the block system is in use develops the fact that enginemen and trainmen are at least 90 per cent. efficient in observing and obeying the signal indications and the rules and instructions for the protection of trains. Hence, we can conclude that the automatic train control system would tend to prevent not more than 10 per cent. of the train accidents which are given above as preventable by the block system; i. e., it would save 58 persons or 55/100 of 1 per cent. of the total killed and 1,159 or 68/100 of 1 per cent. of the total injured for all causes.

No man is any better than any other in the eyes of his Creator. Because of this equality, is it not more humane and more reasonable that our energies and our resources should first be expended to eliminate those causes of railroad accidents that kill and injure the greatest number of persons? If this is so, then the trespasser should receive first attention. By a system of education, compulsion and punishment he must be made to keep at a safe distance from railway trains. This cannot be done by the expenditure of money alone. There must also be co-operation between the individual, the state and the railway.

WEIGHING HEARING AT CHICAGO.

The final hearing, as far as the west is concerned, in the weighing investigation by the Interstate Commerce Commission, which has been in progress during the past year, was held at Chicago on February 26 and 27, before Commissioner Prouty; John T. Marchand representing the commission as attorney. The hearing was devoted almost entirely to the subject of weighing coal, and in addition various witnesses were given an opportunity to present their views as to some of the principal questions that have arisen in previous hearings.

M. N. Billings, assistant traffic manager of the Illinois Steel Company, testified as to methods of weighing shipments of iron and steel. He was followed by W. M. Hopkins, manager of the transportation department of the Chicago Board of Trade, who complained of the inaccuracy of grain weights obtained on the wagon scales of the railways in Chicago, on account of the lack of supervision, and asked to have this weighing done under the supervision of the Board of Trade. He also called to the stand Albert L. Somers, a grain commission merchant, who testified that grain cannot be sold from team tracks, except at a premium of from one-half to two cents above the market price, because of the risks to be expected in checking weights from wagon scales.

Mr. Cruikshank, representing the Streeter-Amet Weighing & Recording Scale Co., briefly described the automatic recording device manufactured by his company, which he said had been in use about 20 years.

W. F. Sheridan, inspector of transportation of the Louisville & Nashville, testified that on his line coal is weighed at or very near the mine, either on scales owned by the operators, or on the railroad track scales, using the tare weight as stenciled on the cars, and that the weights so obtained are used both for the assessment of freight charges and for making out the invoice. Where mine scales are used they are inspected in the same way that the railroad's own scales are inspected. There are no re-weighings, except for obvious discrepancies. He believed that weighing should be done at the point of origin, and that the roads should not be responsible for shrinkage in transit, due to evaporation of moisture. It is important to use point

*From an address on "Railroad Accidents" delivered at Purdue University.

of origin weights, not only for the purpose of assessing freight charges properly, but in order that trains may be made up according to the rated capacity of the engine. Grain is weighed in the same manner as coal, and no change is made after check weighing, except in the case of a discrepancy of 1,000 lbs. or over.

Charles Ware, general manager of the Union Pacific, was called to testify as to practices in the weighing of coal in Wyoming. He stated that most of the mines are equipped with their own track scales, and that coal weighed on these scales is not re-weighed by the railway. He also favored weighing at as near as possible to the point of origin, in order to secure the proper tonnage for locomotives. T. E. Brentnall, general scale inspector of the Union Pacific, supplemented Mr. Ware's testimony with technical details regarding the inspection of scales. He stated that on the Union Pacific all scales are examined once a month to see that the parts work freely, and that once in three months they are tested by a test car. Weights are taken while the cars are uncoupled and standing.

W. E. Wells, chief scale inspector of the Chicago, Burlington & Quincy, testified as to methods in the weighing of coal in Illinois, Iowa and Missouri. He said that most of the mines have track scales of their own, and that their weights are checked occasionally by the railway, which also inspects the scales once a month. John G. Crawford, fuel engineer of the Burlington, testified regarding the percentages of moisture in coal of various kinds and from various districts, and described a series of tests to show changes in weight of loaded cars due to evaporation or to rain while the coal was in transit.

F. C. Maegly, assistant general freight agent of the Atchison, Topeka & Santa Fe, agreed with the preceding witnesses as to the necessity for taking weights at the point of origin. He said that in the southwest some railways have provided for making an allowance for the loss of weight in washed coal due to evaporation. Some companies provide for weighing the coal eight or ten hours after it is loaded to allow time for water to run off. In the southwest coal weights obtained on mine scales are accepted by the carriers where the mines have weight agreements with the Western Railway Weighing Association & Inspection Bureau, which must have full control of the inspection of the scales. If a mine has no scale the coal is weighed at the nearest track scale of the railway, otherwise the railroads depend on the bureau to approve or condemn the scales and methods at the various mines. Coal is almost uniformly sold on the basis of the primary weight and the trade has been adjusted to it. It would entirely disarrange many features of the industry if this method were changed.

A. S. Dodge, superintendent of the Western Railway Weighing Association & Inspection Bureau, submitted a statement in addition to those he had submitted at previous hearings summarizing data for 10,501 cars weighed at 67 different points in the ordinary course of business, but which had been weighed for the purpose of the test, first uncoupled at only one end, and again uncoupled at both ends. The difference in weight was 13,960 lbs. less when cars were uncoupled at both ends, but in 8,996 cars there was no variation. The ordinary difference on the others was from 100 to 200 lbs. per car, although there was one case in which the difference was 1,980 lbs., which was being investigated. He thought the test showed conclusively the reliability of weighing cars coupled at one end. Commissioner Prouty insisted, however, that the test showed that, while there might be no variation in case the operation was properly performed, the fact that a car is coupled at one end introduces a chance for a mistake which may be small, or which may amount to a considerable difference, as in the case of the maximum difference found in the test. Mr. Dodge stated that 80 per cent. more time is required to weigh cars uncoupled at both ends.

W. J. Towne, general superintendent of the Chicago & North Western, testified regarding the scales and weighing practices of the North Western, saying that cars are usually weighed

standing and uncoupled at one end, although sometimes they were weighed in motion. An effort was made to obtain the light weight of all cars once a year, but he thought it had never been completely successful. Scales at the mine are owned by the railway and invoices are made from the scale weights.

Oscar F. Bell, traffic manager of the Crane Company, and chairman of the weighing committee of the National Industrial Traffic League, discussed a large number of the causes for inaccurate weights. He agreed that weighing at or near the point of origin was necessary, but thought there should be some better method than exists at present of deciding which of two varying weights should be taken as the correct one. The stenciled tare weight of a car, he said, is almost always wrong, and in case of a difference between stenciled tare and track weights the scale weight should govern. He also believed that preference should be given to weights obtained on small scales, such as platform scales, over weights taken of an entire car and its load on a track scale. He thought notice ought to be given the shipper promptly in case of any change in the weight found by the carrier.

L. D. Davis, supervisor of scales and weighing of the Baltimore & Ohio, and A. B. Starr, general superintendent of freight transportation of the Pennsylvania lines, were prepared with a large amount of data to be used as arguments against destination weighing, but this line of testimony was made unnecessary by a statement from the commissioner that there had been no demand for destination weighing, and that the commission recognized the necessity for weighing at point of origin. Mr. Davis testified that discrepancies in the tare weight of cars are almost unavoidable, and that they frequently arise from rubbish left in the car. He disagreed with Mr. Bell that small scales would give more accurate weights than track scales, for the reason that the opportunity for error is multiplied when packages are weighed separately.

Eugene McAuliffe, general coal agent of the Frisco lines, gave a large amount of technical testimony in regard to the weighing of coal and the percentages of moisture found in different coals. He believed that, on account of the larger number of opportunities for error with small scales, weights taken on large scales would give better results, even though the smaller scale might be a more accurate machine.

At the Thursday morning session Mr. Maegly and Arthur Hale, general agent of the American Railway Association, announced that for several months a sub-committee of the committee on relations between railroads has been at work on a plan of uniform rules and specifications for weighing, which, it is hoped, may be in shape for adoption at the May meeting of the American Railway Association. The work has been subdivided so that the matter of technical construction and operation of scales will be reported upon by a committee consisting of A. F. Epright, of the Pennsylvania, and Mr. Davis, of the Baltimore & Ohio, while complete rules governing the entire matter of weighing, including the tariff rules, will be formulated by a committee consisting of Mr. Maegly and the managers of the various weighing and inspection bureaus. The committee had made a partial report to the November meeting of the American Railway Association, and new and improved rules for the light weighing of cars had been adopted, effective January 1. The technical committee expects to suggest complete specifications for standard scales, and for the best methods of installing, testing and using scales. The committee on rules may not be able to complete its work before the November meeting. The weighing committee of the National Industrial Traffic League has been asked to co-operate with the railway committees.

Mr. Hale submitted a list of points which he thought should be covered in the briefs and arguments to be filed with the commission, and made a statement in which he urged the commission not to adopt rules which would be so rigid as to deprive some roads of the incentive to strive for a higher standard. He thought that one of the dangers of government regulation was

the inclination to enforce average or compromise standards, and he thought that proper stimulation and encouragement of higher standards would bring better results. Commissioner Prouty made a statement in which he said that one of the principal questions to be considered was as to the extent to which federal control of weighing practices should be substituted for individual control. The important thing is to see that weights are made as nearly accurate as possible, and to provide methods by which controversies may be settled before the consignee has taken possession of the property. He thought the weighing should be done as early as possible after the shipment is turned over to the carrier. Many of the questions involved were such that the commission had no jurisdiction to make a formal order, for instance, it had no authority as to the matter of weighing in motion, but might make some strong recommendations on that point.

Further hearings will be held on March 10, at Philadelphia, and on March 17, at New York, for the purpose of receiving additional testimony regarding the weighing of anthracite coal. Those desiring to prepare briefs or submit arguments are to notify the commission prior to April 15, and Commissioner Prouty stated that final arguments will probably be heard about the first week in May.

FLASH LIGHTS FOR AUTOMATIC SIGNALS.

The Chicago Great Western has installed a Commercial Acetylene flashlight in one of its automatic block signals. This signal is No. 11-3, and is located about 200 yards east of the station at Maywood, Ill. It is a single-arm, upper-quadrant, three-position signal governing westbound movements. The



Acetylene Tank and Regulator for Flash-Light Signal.

light is of the standard type as manufactured by the Commercial Acetylene Railway Light & Signal Company, 80 Broadway, New York, for railway signaling purposes. It flashes once each second, or 60 times a minute, and is lighted one-tenth of

each second and dark nine-tenths. The flashing is continuous through all three indications of the signal. The light will burn 24 hours a day for nine months without attention. To disconnect the empty tank and connect up a full one takes 15 minutes. No relighting is necessary, as there is enough gas in the pipes to keep the flame going. The feed pipe from the tank is carried up to the lamp outside the signal post.

INCREASE IN MAIL PAY.

The post office appropriation bill as passed by Congress this week allows the postmaster general to increase, not exceeding 5 per cent., the contract compensation to be paid the railways for carrying the mails from July 1 next to the end of the present contract period, except on routes where the mail has been weighed since the beginning of the present year. This change in the law is made because of the increase in the weight of mail carried on account of the introduction of the parcel post, January 1, last; but it is only a small part of what the railroads have asked for. Ralph Peters, vice chairman of the committee on railway mail pay, has presented strong arguments to both congressional committees for a reasonable readjustment of the rates of pay, accompanying his statement with data concerning the increased weight of mails thrown upon the railroads since the establishment of the parcel post, which increase in many cases has amounted to 25 per cent. or more. With a 25 per cent. increase in weight and a 5 per cent. increase in compensation the railroads will be getting for the new business one-fifth the compensation that they should.

The annual appropriation for compensation of the railroads for the mails is about fifty millions and this, to anti-railroad congressmen, seems a huge sum; but Mr. Peters calls attention to the fact that the rural mail carriers receive 45 millions of dollars; the railway mail clerks 35 millions, and the letter carriers 37½ millions. The mail-pay committee will continue its campaign with the congressmen to secure a modification of the law so as to require the postmaster general to reweigh the mails at least once every year.

NEW YORK CITY SUBWAYS.

The New York State Public Service Commission, first district, on March 4 approved the operating contracts, which have been the subject of tedious delays and litigation since they were first proposed, many months ago, under which the Interborough Rapid Transit Company and the Brooklyn Rapid Transit Company are to operate new subways to be built in Manhattan, the Bronx and Brooklyn. The contracts, as now agreed upon, do not include the construction or operation of the proposed additional main tracks on the elevated lines on Third avenue and other avenues, this feature of the new system having been delayed by objections interposed at the last minute by owners of the Manhattan Elevated. Officers of the Interborough Rapid Transit Company, lessee of the Manhattan Company's lines, had agreed to all of the proposals of the city and state authorities, but they were surprised on the day on which the contracts were to be signed by the refusal of George J. Gould and other prominent owners of the elevated lines to agree to the proposed changes. Hearings will be given by the Public Service Commission March 15 on a proposal to authorize the Interborough Company to put up the proposed new elevated lines.

ARGENTINE RAILWAY CONCESSIONS.—The Argentine Director General of Railways is drafting a bill dealing with the conditions to be fulfilled by applicants for railway concessions. The object is to put a stop to acquiring concessions which will never be carried out and are obtained for speculative purposes, either by endeavoring to sell to an existing railway company whose zone has been invaded or for land speculation.

General News.

The annual meeting of the Burlington Association of Operating Officers was held at the general offices in Chicago on March 3, 4 and 5.

Suit was filed by the government on March 1, in the United States district court, at Chicago, charging the Chicago & Eastern Illinois with 104 separate violations of the hours of service law.

Officers of the Grand Trunk say that the increase in wages paid for organized labor for 1912 over 1911 amounts to \$750,000, and that the increases for other classes of employees will amount to very nearly an equal amount; bringing the total wage increases for the year up to nearly \$1,500,000.

The Cincinnati, New Orleans & Texas Pacific, which is now using the telephone for train despatching on 137 miles of its line, is to adopt the same plan on 117 miles additional. With this extension there will be left only 87 miles on which the telegraph is still in use for despatching.

Representative Curley of Massachusetts has introduced in Congress a bill looking to the amendment of the Constitution so as to give Congress the right to regulate hours of labor throughout the United States. Cotton and woolen manufacturers and other employers in Massachusetts suffer because of the lax labor laws in other states.

On recommendation of the Texas railroad commission it is said that the attorney general of Texas will institute proceedings for suits against the Timpson & Northwestern and the Jefferson & Northwestern railways to recover penalties aggregating \$427,000 and \$179,000, respectively, for alleged violations of the law requiring monthly reports to the commission.

On Tuesday, February 25, a French aviator, Marcel G. Brindejonc des Moulinais, flying in a monoplane, traversed the distance from Paris to London, 287 miles, at the rate of about 90 miles an hour. There was a dense fog when he crossed the channel. The aviator started at 9:15 a. m., landed at Calais at 10:50, resumed his flight at noon, and descended in London at 1:30.

Following a series of conferences between officers of the Illinois Central and of the Order of Railway Telegraphers a new contract has been made by which more than 1,000 of the company's operators will receive an increase in pay. The schedule is so arranged that the increases will apply in accordance with the responsibilities at different stations.

In the Federal Court at Buffalo, N. Y., March 4, fines aggregating \$30,000 were imposed on the New York Central for discrimination in the assessment of demurrage charges on freight cars at East Buffalo. At the same time the Lake Shore & Michigan Southern paid fines aggregating \$20,000, and the New York, Chicago & St. Louis \$5,000, for violation of the 28-hour law regulating transportation of animals.

The Colorado House has passed a bill reducing passenger fares in the state. The rates in the plains district are to be two cents a mile where the annual gross passenger earnings exceed \$1,000 per mile, and three cents a mile where the earnings are less than that amount. In the mountainous district the rate is to be three cents a mile where the earnings exceed \$1,200 a mile, three and a half cents where they are less than \$1,200 a mile, and 5 cents a mile for hauls of 10 miles or less.

The safety department of the Chicago, Burlington & Quincy, of which E. M. Switzer is the superintendent, has had a car fitted up especially for use in the "safety first" campaign. It is arranged similar to a small theater, having seats for 70 persons, and a platform with a large screen on which moving picture views will be shown during lectures to be given by Mr. Switzer. Lectures will be given from this car at prominent points on all parts of the Burlington system, the purpose being to have the car go to the men, instead of requiring the men to go to a hall to attend the lectures.

A "safety first" rally was held at Williamsport, Pa., on Monday evening last, participated in by officers and employees of the Pennsylvania, the Philadelphia & Reading, the New York Central and the Susquehanna & New York railroads. H. M. Carson, general superintendent of the Pennsylvania Railroad, presided.

The principal address, which was accompanied by stereopticon views, was given by George Bradshaw, general safety agent of the New York Central. Mr. Bradshaw's lecture was preceded by a half dozen five-minute addresses by employees of the different roads, an engineman, a train master, an agent, a freight brakeman, a machinist and a passenger conductor.

To comply with the order of the Public Utilities Commission of Connecticut, and the recommendation of the Interstate Commerce Commission, the New York, New Haven & Hartford is rebuilding 78 crossovers between Boston and Woodlawn (New York) 220 miles; and at the same time will reconstruct 12 switch leads which are not in crossovers. In connection with this work 36 interlocking plants will have to be rebuilt, or extensively altered; and the estimated cost of the whole of the changes is \$750,000. Forty-three of the crossovers are number 15, these having been installed in former years with the expectation of providing for all necessary movements of all classes of trains.

The Illinois Central was fined \$2,000 in the federal court at Chicago on February 28, for violation of the safety appliance law, hours of service law, the law providing for the filing of reports with the Interstate Commerce Commission, and the law regulating the transportation of cattle. The Lake Erie & Western, the Lake Shore & Michigan Southern, and the Indiana Harbor Belt railways were fined in the United States court at Indianapolis on February 24, for violation of the hours of service law and the safety appliance law. Suit was filed in the United States district court at Chicago last week against the Chicago & Alton for 12 alleged violations of the hours of service law.

The Chicago plan commission has appointed a committee, consisting of Charles H. Wacker, W. D. Kerfoot, Clyde M. Carr, Michael Zimmer and James Simpson, to confer with officers of the Pennsylvania Lines; Chicago, Burlington & Quincy; Chicago, Milwaukee & St. Paul, and Chicago & Alton, with reference to the possible adaptation of their plan for the erection of the proposed union station to the "plan of Chicago," formulated by the commission. The committee will collect data and information to be presented to the railways in the effort to prove that a union terminal at Twelfth street is preferable to the site proposed by the railways between Jackson, Adams, Canal and Clinton streets.

President Percy R. Todd, of the Bangor & Aroostook, says that the action of his company in bringing suit against the Maine Central for damages is based on the refusal of the M. C. to continue an allowance to the B. & A. which was agreed upon in 1906 when the point of interchange for freight between the two roads was changed from Oldtown, Me., to Northern Maine Junction. In view of the disadvantage to the B. & A. resulting from this change the Maine Central was to pay it certain sums monthly, based on the amount of freight interchanged. These payments were made until May 1, 1911, when the M. C. refused to continue the allowance, thus depriving the B. & A. of upward of \$75,000 a year.

"Safety first" reaches its highest development the farther ahead a dangerous condition can be seen; and according to "The Frisco-man," this was exemplified recently in a striking manner on a road in a southern state—not the Frisco road—when a locomotive engineman, running a fast train, on a very dark and rainy night, and approaching a street crossing, noticed sparks of light fluttering in the air. Recognizing this phenomenon as one commonly seen when a trolley slips off its wire, the engineman, surmising that possibly a street car was in trouble, shut off steam and slackened his speed. On reaching the crossing he found across his track a car, loaded with passengers, while the conductor was vainly trying to place the trolley in its position against the wire. The motorman was standing at his place on the car waiting for the connection to be made. No one had taken the precaution to watch for the express train.

Firemen's Wages.

William L. Chambers of Washington, D. C., formerly chief justice of the International Court at Samoa and member of the Spanish Treaty Claims Commission, has been chosen by Messrs. Knapp and Hangar to be the third member of the arbitration board which is to consider the Eastern firemen's demand for increased pay. Mr. Chambers was a member of the board

which, in May, 1910, arbitrated the wages of the firemen of 49 roads west of Chicago. The arbitrators, Messrs. Atterbury, Phillips and Chambers, will hold their first public session at Washington, D. C., March 10.

Pullman Cars on the New Haven.

That the Pullman Company now furnishes and operates the parlor and sleeping cars on the New York, New Haven & Hartford is a fact which, we trust, is by this time known to the readers of the *Railway Age Gazette*. We hope, therefore, that our devil-proof-reader will be forgiven for stating last week that the new parlor cars recently put on the Merchants' Limited were made by "Borman."

Proposed Legislation.

The lower house of the Indiana legislature has passed a bill limiting the length of freight trains to 85 cars.

A bill has been introduced in the Iowa senate requiring railways to pay claims within 90 days, subject to a penalty of \$100.

A bill has been introduced in the senate of the Michigan legislature requiring railways to furnish cars to shippers within 72 hours, and refrigerator cars for perishable shipments within 18 hours.

A bill has been introduced in the Nebraska legislature which would require all railways in the state to employ train auditors to look after collections of tickets, leaving the conductor to run the train.

A bill has been introduced in the Michigan legislature requiring railways to furnish freight cars to shippers within 72 hours after the request is made, except in the case of refrigerator cars for perishable shipments, which shall be furnished within 18 hours.

A bill has been introduced in the Indiana legislature by Mr. McCabe to regulate demurrage on freight cars. Mr. McCabe would allow 72 hours' free time on a carload weighing from 30 to 40 tons; and 96 hours on shipments weighing more than 40 tons.

The railroad committee of the Kansas senate has amended the proposed full-crew law which it has had under consideration for several days, so as to require an additional brakeman only on trains of 50 or more cars, instead of 25 or more cars, as originally drafted.

The railway committees of the Michigan legislature have held hearings on a bill to authorize an additional charge when cash fares are paid on the trains. Conductors testified that without a penalty against the payment of cash fares too much of their time is taken up in making collections.

At a recent meeting of the Commerce Club of Pueblo, Colo., resolutions were passed expressing disapproval of bills pending in the legislature to compel railways to equip their locomotives with headlights of 1,200 c. p.; to compel railways to have a third man on all locomotives; and to prohibit running locomotives backward.

The Indiana legislature has before it a bill to amend the full crew law of the state so as to forbid the employment on trains of any person except men regularly employed as engine-men, firemen, conductors and brakemen. F. A. Feick claimed that the railroads were flagrantly violating the present law by classing colored porters as brakemen.

A bill has been reported in the Missouri senate providing that when rates fixed by statute are made inoperative on account of litigation, railways or public utilities are required to give rebate tickets providing for a refund in the event the statutory rate is upheld. The corporations are required to file an itemized statement of the overcharges with the state twice a year, so that the state may bring suit against the corporations for a return of the excess collections, to be distributed among the holders of the rebate tickets. Another bill provides that, as an inducement to railways and other public utilities to pay claims without litigation, judgments in courts of original jurisdiction will be reduced one-half in case the corporation chooses to pay without appeal.

Suits have been filed in the federal court at Danville, Ill., charging the Mobile & Ohio with transporting sheep from the quarantine district of Jordan, Ky.; the Chicago & Alton with three violations of the federal hours of service law; the Illinois Central with one violation of the law regulating the transportation of live stock; the Merchants' Bridge Company of St. Louis with 29 violations of the hours of service law; the Terminal Railroad Association of St. Louis with 68 violations of the hours of service law, and the Chicago, Burlington & Quincy with three violations of the hours of service law. Four railways were fined in the United States district court at Chicago on February 21, for violations of the law regulating the transportation of live stock. The Chicago, Milwaukee & St. Paul was fined \$1,200, the Michigan Central \$200, the Minneapolis, St. Paul & Sault Ste. Marie \$400, and the Cleveland, Cincinnati, Chicago & St. Louis \$200.

The Nebraska railway commission has issued a statement saying that the passage of the Keckley bill to reduce freight rates in the state 20 per cent., now pending in the legislature, would seriously hamper it in securing reasonable rates, because it has already, after an exhaustive investigation, issued a general order setting forth a tentative distance schedule of reduced class rates which it has held up awaiting the decision of the Supreme Court in the Minnesota rate case. If this decision when rendered shall leave it within the power of the several states to regulate their intrastate rates the commission will proceed with its investigation, following such principles as may be laid down in that decision, and will make such reductions as it is reasonably satisfied it can sustain in the courts. Representatives of the railways presented arguments against the bill at a hearing before the house committee on railroads on February 19, and showed that Mr. Keckley's comparisons of earnings in the states of Nebraska and of Iowa were based on a division of earnings and expenses published in a report of the Iowa railway commission which has since been repudiated by the commission as unreliable; and that in his comparison with Iowa and Nebraska local rates, he had used the exceptional joint rates which are 80 per cent. of the standard local rates.

President Wilson's Cabinet.

In the cabinet of the new president, as announced from Washington, this week, William G. McAdoo, of New York City, president of the Hudson & Manhattan Railroad, is Secretary of the Treasury, and Franklin K. Lane, hitherto chairman of the Interstate Commerce Commission, is Secretary of the Interior.

Beats the New York Subway.

"The Panama Canal Railroad can boast of the biggest labor train in the world," says a recent traveler. "The train is run for the accommodation of the workmen living between Panama City and Pedro Miguel, and those working at the locks at Culebra cut. There are 22 cars in the train and the average number of passengers is estimated to exceed 2,000. Three are for 'gold employees,' a term used to designate those paid in United States currency; five cars are for 'silver employees,' or those paid in Panama currency, and the remaining cars are for negroes.

"Each of the cars for gold employees will carry fifty to seventy passengers without crowding, while those for silver or European employees are packed tightly; and those for negroes are filled like sardine tins. In fact, according to the conductor of the train, the average number of negroes in a car was 165."—*New Orleans Picayune*.

The Grand Trunk Line to Providence.

President E. J. Chamberlin of the Grand Trunk appeared before the legislature of Rhode Island last week and told Governor Pothier and the legislators that if the state would guarantee the bonds of the Southern New England to the amount of \$6,000,000 the company would resume work on the line in the spring. By a law passed in Canada while the late president Hays was in Europe the Grand Trunk can secure new capital for improvements only in case these are to be made in Canada. Mr. Chamberlin said that the Central Vermont would guarantee the bonds of the Southern New England and that all that was asked of Rhode

Island was to put the guarantee of the state after that of the C. V. It is expected that the legislature will submit the question to a vote of the citizens. Mr. Chamberlin is reported as saying that officers of the Grand Trunk had estimated that the Southern New England line from Palmer to Providence would be self-supporting. Vice-President M. M. Reynolds of the Grand Trunk, asked about the original plans for the financing of the Southern New England, said that these were known only to Mr. Hays; whatever plans he had in his mind perished with him when the *Titanic* sank.

On Monday of this week during the absence of Governor Pothier in Washington, a committee of 19 state officers and prominent citizens which had been appointed by the governor and asked to consider the proposed plan, voted that under no circumstances should the state of Rhode Island guarantee the bonds of the Southern New England Railway.

The Bureau of Explosives.

Colonel B. W. Dunn, chief inspector of the Bureau for the Safe Transportation of Explosives and Other Dangerous Articles, has issued a circular calling attention to the advantages of associate membership in the bureau. The constitution of the bureau is now so amended that manufacturers and others interested can become associate members at a cost of \$25 a year. Shippers and makers of chemicals and other dangerous articles not classed as explosives, are now joining the bureau. This organization is now more than seven years old, and, with the co-operation of the federal government, is a most useful and important instrumentality for safe railway operation and railway travel. Railway officers desiring to interest shippers in the bureau can secure circulars and blank applications for membership by sending to Colonel Dunn, 30 Vesey street, New York City.

A Signal Instructor on the North Western.

The Chicago & North Western, on March 1, created the position of signal instructor. The duties of the incumbent of this position are to instruct and educate enginemen, trainmen and other employees on signals and signal indications and the observance of them. Lectures will be given periodically at all the division points and at other places where automatic signals are in service or at which there are a number of interlocking plants.

A passenger car has been remodeled and fitted up for the use of the instructor, and its equipment includes a stereopticon; and also a "radiopticon," an instrument for projecting photographs and drawings without the necessity of having slides made for them. Pictures are to be taken of every indication and aspect which can be given or shown by the various types of signals at present in use on the road, and also by any signals the appearance or placing of which is out of the ordinary on account of local conditions or surroundings. The observance of switch signals and indicators, and train operation at interlocking plants will be carefully explained and illustrated in the lectures. The rules governing all signaling facilities will also be the subjects of frequent talks. C. G. Stecher, who has been supervisor on the terminal at Chicago, has been appointed signal instructor. (See Railway Officers department.)

Proposed New Bridge at New London.

Engineers of the New York, New Haven & Hartford are completing plans for a new steel bridge over the Thames river at New London, Conn. This bridge is to take the place of the present one, which was opened in October, 1889, and which cost over \$1,000,000. The details of the new structure are not yet fully determined. The plans call for a four-track bridge, consisting of two double-track parallel spans. The height of the bridge above the bottom of the channel will be 140 ft. There are to be five fixed spans, four of which will be of 195 ft. each and one of 245 ft., and also one draw span having a clear channel of 150 ft.

The cost of building the new bridge, including certain sections of the approaches, is estimated at about \$4,000,000. The present structure has been offered to the state of Connecticut as a feature of its highway program and a bill has been introduced in the legislature providing for the acceptance of this offer. The railroad company reserves the right to run trolley

cars over the bridge. Announcement of the complete plans will probably be made soon, but the beginning of work on the bridge depends on what is to be done with the old structure.

Railway Signal Association.

At the regular meeting of this association in Chicago, March 17, seven committee reports will be brought up for discussion. Committee No. 3, Power Interlocking, will present specifications for annunciator bells; for push buttons; floor pushes; for fuses; for steel pipe conduit; and for wrought iron pipe conduit. Committee No. 5 will present a code of rules for the operation and maintenance of interlocking plants. Committee No. 6 will present standard drawings for anchor post; location for detector bar and clip bolt; stuffing box for 1 in. pipe; stuffing box for wire; connections for double switches; and details for lock rod and operating connections. Committee No. 8 will present additions to specifications and requisites for alternating current automatic block signal systems on steam railways. Committee No. 9 will present revised specifications for galvanized steel wire for mechanical connections. Committee No. 10 will submit information concerning Edison storage batteries and specifications for lead type stationary storage batteries; also a drawing of a motor panel. The special committee, W. L. Manual, chairman, will present a progress report on blanks and rules for recording signal performance.

Program of the American Railway Engineering Association.

The following is the program for the convention of the American Railway Engineering Association, which will be held at the Congress hotel, Chicago, on March 18-21, inclusive:

Morning Sessions—9:00 a. m. to 12:30 p. m.

Afternoon Sessions—2:00 p. m. to 5:30 p. m.

TUESDAY, MARCH 18.

President's Address.

Reports of Secretary and Treasurer.

Reports of Standing and Special Committees.

XII. Rules and Organization.

X. Signals and Interlocking.

XV. Iron and Steel Structures.

V. Track.

IV. Rail.

Reception at 8:00 p. m.

WEDNESDAY, MARCH 19.

XVI. Economics of Railway Location.

VII. Wooden Bridges and Trestles.

(Special) Uniform General Contract Forms.

XVII. Wood Preservation.

III. Ties.

IX. Signs, Fences and Crossings.

VIII. Masonry.

Annual Dinner at 7:00 p. m.

THURSDAY, MARCH 20.

XIX. Conservation of Natural Resources.

II. Ballast.

VI. Buildings.

VIII. Water Service.

XIV. Yards and Terminals.

(Special) Grading of Lumber.

I. Roadway.

XVIII. Electricity.

XI. Records and Accounts.

New Business.

Election and Installation of Officers.

Adjournment.

FRIDAY, MARCH 21.

Visit to National Railway Appliances Exhibition in the Coliseum and Armory.

The Board of Direction will give a reception on Tuesday evening to the members and guests. A musical program will be presented, and Past President William McNab will give an illustrated talk on the Panama Canal.

The annual dinner will be held in the Gold room of the Congress hotel on Wednesday evening. B. A. Worthington, president of the Chicago & Alton, will give an address entitled Look-

ing Into the Future; George A. Post of New York, president of the Railway Business Association, will speak; Rev. R. W. Dickie of Montreal, Can., will speak on Internationalism and P. G. Rennick, of Peoria, Ill., on the Twentieth Century Pattern.

American Society of Mechanical Engineers.

The railway committee of the American Society of Mechanical Engineers has arranged for the discussion of the subject of Steel Passenger Car Design in its various phases at a meeting to be held April 8. The following have accepted an invitation to discuss various phases of the subject: Problem of Steel Car Design, W. F. Kiesel, Jr. (Penna. R. R.); Suspension of Steel Cars, E. W. Summers, president, Summers Steel Car Company; Trucks for Steel Passenger Cars, J. A. Pilcher (N. & W.); Provision for Electric Lighting in Steel Cars, H. A. Currie (N. Y. C. & H. R.); Provision for Electrical Equipment on Steel Motor Cars, F. W. Butt (N. Y. C. & H. R.); Special Ends for Steel Passenger Cars, H. M. Estabrook, president, Barney & Smith Car Company; Draft Gears for Steel Passenger Cars, S. P. Bush, Buckeye Steel Castings Company; Cast Steel Double Body Bolster and End Frames for Steel Cars, C. T. Westlake, Commonwealth Steel Company.

Other subjects which will be discussed are as follows: Introduction to General Discussion of Steel Passenger Cars; Superstructure of Steel Cars; Roof Structure for Steel Cars; Interior Steel Finish for Steel Passenger Cars; Corrosion and Protection of Steel Passenger Cars; Air Brakes for Heavy Steel Passenger Cars; and Special Pressed Steel Shapes for Steel Cars.

The chairman of the Railway Committee is E. B. Katte, chief engineer, Electric Traction, New York Central & Hudson River, New York.

MEETINGS AND CONVENTIONS.

The following list gives names of secretaries, dates of next or regular meetings, and places of meeting.

- AIR BRAKE ASSOCIATION.—F. M. Nellis, 53 State St., Boston, Mass. Convention, May 6-9, St. Louis, Mo.
- AMERICAN ASSOCIATION OF DEMURRAGE OFFICERS.—A. G. Thomason, Boston, Mass. Convention, May 20, Chicago.
- AMERICAN ASSOCIATION OF GENERAL PASSENGER AND TICKET AGENTS.—W. C. Hope, New York.
- AMERICAN ASSOCIATION OF FREIGHT AGENTS.—R. O. Wells, East St. Louis, Ill. Annual meeting, June 17-20, Buffalo, N. Y.
- AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—E. H. Harman, St. Louis, Mo.; 3d Friday of March and September.
- AMERICAN ELECTRIC RAILWAY ASSOCIATION.—H. C. Donecker, 29 W. 39th St., New York.
- AMERICAN ELECTRIC RAILWAY MANUFACTURERS' ASSOC.—George Keegan, 165 Broadway, New York. Meetings with Am. Elec. Ry. Assoc.
- AMERICAN RAILWAY ASSOCIATION.—W. F. Allen, 75 Church St., New York. Next meeting, May 21, New York.
- AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W., Chicago. Convention, October 21-23, 1913, Montreal.
- AMERICAN RAILWAY ENGINEERING ASSOCIATION.—E. H. Fritch, 900 S. Michigan Ave., Chicago. Convention, March 18-20, 1913, Chicago.
- AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—J. W. Taylor, Old Colony building, Chicago. Convention, June 11-13, Atlantic City, N. J.
- AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—A. R. Davis, Central of Georgia, Macon, Ga.
- AMERICAN SOCIETY FOR TESTING MATERIALS.—Prof. E. Marburg, University of Pennsylvania, Philadelphia, Pa.; annual, June, 1913.
- AMERICAN SOCIETY OF CIVIL ENGINEERS.—C. W. Hunt, 220 W. 57th St., New York; 1st and 3d Wed., except June and August, New York.
- AMERICAN SOCIETY OF ENGINEERING CONTRACTORS.—J. R. Wemlinger, 11 Broadway, New York; 2d Tuesday of each month, New York.
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 39th St., New York.
- AMERICAN WOOD PRESERVERS' ASSOCIATION.—F. J. Angier, B. & O., Baltimore, Md. Next convention, January 20-22, 1914, New Orleans, La.
- ASSOCIATION OF AMERICAN RAILWAY ACCOUNTING OFFICERS.—C. G. Phillips, 143 Dearborn St., Chicago. Annual meeting, May 28, Atlantic City, N. J.
- ASSOCIATION OF RAILWAY CLAIM AGENTS.—J. R. McSherry, C. & E. I., Chicago. Next meeting, May, 1913, Baltimore, Md.
- ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W. Ry., Chicago. Semi-annual meeting, June, 1913, Atlantic City, N. J.
- ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.—P. W. Drew, 112 West Adams St., Chicago; annual, May 20, 1913, St. Louis, Mo.
- ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.—G. P. Conard, 75 Church St., New York.
- ASSOCIATION OF WATER LINE ACCOUNTING OFFICERS.—W. R. Evans, Chamber of Commerce, Buffalo, N. Y. Annual meeting, October 8, Philadelphia, Pa.
- BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—H. A. Neally, Joseph Dixon Crucible Co., Jersey City, N. J. Meeting with American Railway Bridge and Building Association.
- CANADIAN RAILWAY CLUB.—James Powell, Grand Trunk Ry., Montreal, Que.; 2d Tuesday in month, except June, July and Aug., Montreal.
- CANADIAN SOCIETY OF CIVIL ENGINEERS.—Clement H. McLeod, 413 Dorchester St., Montreal, Que.; Thursday, Montreal.
- CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Aaron Kline, 841 North 50th Court, Chicago; 2d Monday in month, Chicago.
- CENTRAL RAILWAY CLUB.—H. D. Vought, 95 Liberty St., New York; 2d Thurs. in Jan. and 2d Fri. in March, May, Sept., Nov., Buffalo, N. Y.
- CIVIL ENGINEERS' SOCIETY OF ST. PAUL.—L. S. Pomeroy, Old State Capitol building, St. Paul, Minn.; 2d Monday, except June, July, August and September, St. Paul.
- ENGINEERS' SOCIETY OF PENNSYLVANIA.—E. R. Dasher, Box 704, Harrisburg, Pa.; 1st Monday after 2d Saturday, Harrisburg, Pa.
- ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—E. K. Hiles, Oliver building, Pittsburgh; 1st and 3d Tuesday, Pittsburgh, Pa.
- FREIGHT CLAIM ASSOCIATION.—Warren P. Taylor, Richmond, Va. Next convention, June 18, Bluff Point, N. Y.
- GENERAL SUPERINTENDENTS' ASSOCIATION OF CHICAGO.—E. S. Koller, 226 W. Adams St., Chicago; Wed. preceding 3d Thurs., Chicago.
- INTERNATIONAL RAILWAY CONGRESS.—Executive Committee, 11, rue de Louvain, Brussels, Belgium. Convention, 1915, Berlin.
- INTERNATIONAL RAILWAY FUEL ASSOCIATION.—C. G. Hall, 922 McCormick building, Chicago. Annual meeting, May 21-24, Chicago.
- INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 829 West Broadway, Winona, Minn. Next convention, July 22-25, Chicago.
- INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—A. L. Woodworth, Lima, Ohio. Annual meeting, August 18, Richmond, Va.
- MAINTENANCE OF WAY MASTER PAINTERS' ASSOCIATION OF THE UNITED STATES AND CANADA.—W. G. Wilson, Lehigh Valley, Easton, Pa.
- MASTER BOILER MAKERS' ASSOCIATION.—Harry D. Vought, 95 Liberty St., New York. Convention, May 26-29, 1913, Chicago.
- MASTER CAR BUILDERS' ASSOCIATION.—J. W. Taylor, Old Colony building, Chicago. Convention, June 16-18, Atlantic City, N. J.
- MASTER CAR AND LOCOMOTIVE PAINTERS' ASSOC. OF U. S. AND CANADA.—A. P. Dane, B. & M., Reading, Mass. Annual meeting, September 9-12, Ottawa, Can.
- NATIONAL RAILWAY APPLIANCE ASSOC.—Bruce V. Crandall, 537 So. Dearborn St., Chicago. Meeting with Am. Ry. Eng. Assoc.
- NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass.; 2d Tuesday in month, except June, July, Aug. and Sept., Boston.
- NEW YORK RAILROAD CLUB.—H. D. Vought, 95 Liberty St., New York; 3d Friday in month, except June, July and August, New York.
- NORTHERN RAILROAD CLUB.—C. L. Kennedy, C. M. & St. P., Duluth, Minn.; 4th Saturday, Duluth.
- PEORIA ASSOCIATION OF RAILROAD OFFICERS.—M. W. Rotchford, Union Station, Peoria, Ill.; 2d Tuesday.
- RAILROAD CLUB OF KANSAS CITY.—C. Manlove, 1008 Walnut St., Kansas City, Mo.; 3d Friday in month, Kansas City.
- RAILWAY BUSINESS ASSOCIATION.—Frank W. Noxon, 2 Rector St., New York. Annual dinner, second week in December, 1913, New York.
- RAILWAY CLUB OF PITTSBURGH.—J. B. Anderson, Penna. R. R., Pittsburgh, Pa.; 4th Friday in month, except June, July and August, Pittsburgh.
- RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOC.—J. Scribner, 1021 Monadnock Block, Chicago. Meetings with Assoc. Ry. Elec. Engrs.
- RAILWAY GARDENING ASSOCIATION.—J. S. Butterfield, Lee's Summit, Mo. Next meeting, August 12-15, Nashville, Tenn.
- RAILWAY DEVELOPMENT ASSOCIATION.—W. Nicholson, Kansas City, Southern, Kansas City, Mo.
- RAILWAY SIGNAL ASSOCIATION.—C. C. Rosenberg, Bethlehem, Pa. Meetings, March 17, Chicago; June 10-11, New York; convention, October 14, Nashville, Tenn.
- RAILWAY STOREKEEPERS' ASSOCIATION.—J. P. Murphy, Box C, Collinwood, Ohio. Annual convention, May 19-21, Chicago.
- RAILWAY SUPPLY MANUFACTURERS' ASSOC.—J. D. Conway, 2135 Oliver bldg., Pittsburgh, Pa. Meetings with M. M. and M. C. B. Assocs.
- RAILWAY TEL. AND TEL. APPLIANCE ASSOC.—W. E. Harkness, 284 Pearl St., New York. Meetings with Assoc. of Ry. Teleg. Sups.
- RICHMOND RAILROAD CLUB.—F. O. Robinson, Richmond, Va.; 2d Monday except June, July and August.
- ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—L. C. Ryan, C. & N. W., Sterling, Ill. Convention, September 8-12, 1913, Chicago.
- ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Union Station, St. Louis, Mo.; 2d Friday in month, except June, July and Aug., St. Louis.
- SIGNAL APPLIANCE ASSOCIATION.—F. W. Edmonds, 3868 Park Ave., New York. Meetings with annual convention Railway Signal Association.
- SOCIETY OF RAILWAY FINANCIAL OFFICERS.—C. Nyquist, La Salle St. Station, Chicago.
- SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—E. W. Sandwich, A. & W. P. Ry., Montgomery, Ala. Next meeting, April 17, Atlanta, Ga.
- SOUTHERN & SOUTHWESTERN RAILWAY CLUB.—A. J. Merrill, Grant bldg., Atlanta, Ga.; 3d Thurs., Jan., March, May, July, Sept., Nov., Atlanta.
- TOLEDO TRANSPORTATION CLUB.—J. G. Macomber, Woolson Spice Co., Toledo, Ohio; 1st Saturday, Toledo.
- TRACK SUPPLY ASSOCIATION.—W. C. Kidd, Ramapo Iron Works, Hillsburn, N. Y. Meeting with Roadmasters' and Maintenance of Way Association.
- TRAFFIC CLUB OF CHICAGO.—Guy S. McCabe, La Salle Hotel, Chicago; meetings monthly, Chicago.
- TRAFFIC CLUB OF NEW YORK.—C. A. Swope, 290 Broadway, New York; last Tuesday in month, except June, July and August, New York.
- TRAFFIC CLUB OF PITTSBURGH.—D. L. Wells, Erie, Pittsburgh, Pa.; meetings monthly, Pittsburgh.
- TRAFFIC CLUB OF ST. LOUIS.—A. F. Versen, Mercantile Library building, St. Louis, Mo. Annual meeting in November. Noonday meetings October to May.
- TRAIN DESPATCHERS' ASSOCIATION OF AMERICA.—J. F. Mackie, 7042 Stewart Ave., Chicago. Annual meeting, June 17, Los Angeles, Cal.
- TRANSPORTATION CLUB OF BUFFALO.—J. M. Sells, Buffalo; first Saturday after first Wednesday.
- TRANSPORTATION CLUB OF DETROIT.—W. R. Hurley, L. S. & M. S., Detroit, Mich.; meetings monthly.
- TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, N. Y. C. & H. R., East Buffalo, N. Y. Annual meeting, August, 1913, Chicago.
- UTAH SOCIETY OF ENGINEERS.—R. B. Ketchum, University of Utah, Salt Lake City, Utah; 3d Friday of each month, except July and August.
- WESTERN CANADA RAILWAY CLUB.—W. H. Rosevear, P. O. Box 1707, Winnipeg, Man.; 2d Monday, except June, July and August, Winnipeg.
- WESTERN RAILWAY CLUB.—J. W. Taylor, Old Colony building, Chicago; 3d Tuesday of each month, except June, July and August.
- WESTERN SOCIETY OF ENGINEERS.—J. H. Warder, 1735 Monadnock block, Chicago; 1st Monday in month, except July and August, Chicago.

Traffic News.

W. E. Price has been appointed agent of the land and industrial department of the Southern Railway at Harrisburg, Pa.

During the month of January 121 cars of emigrants from 14 states were moved over the St. Louis, Brownsville & Mexico.

Dr. William T. McElveen, pastor of the First Congregational Church of Evanston, addressed the Traffic Club of Chicago at a luncheon, February 27.

The railways in the Western Passenger Association have decided to discontinue all party fares in the territory between Chicago and the Missouri river from and after March 15. They have also decided to abolish special rates for the transportation of railroad laborers, except over the lines on which they are to be employed.

On the opening of a new station at Union Hill, Jamaica, N. Y., the Long Island Railroad Company will adopt a new tariff of passenger rates in which there will be some increases in fares as well as some reductions. The changes are mostly for short distances, on single trip and round trip tickets; usually one, two or three cents.

The secretary of agriculture has released from quarantine 19,490 square miles in the southern states, in which hitherto shipments of cattle have been restricted or forbidden because of the prevalence of cattle ticks. Since the work of eradicating the ticks was begun in 1906 more than 187,000 square miles have been cleared. A map showing the quarantined territory and the areas that have been released can be had upon application to the secretary at Washington.

The New York Central and the New York, New Haven & Hartford have secured from the Appellate division of the Supreme Court of New York a writ of certiorari which will suspend the order of the Public Service Commission reducing fares on these roads in the suburban district adjacent to New York City. According to the order of the court the roads will continue charging the fares now in effect, but will give to each purchaser a certificate to the effect that, in case the order of the commission reducing the rates shall finally be sustained by the Court, the difference between the high and the low rate will be refunded.

Inefficiency of Our Paternal Government.

According to a recent press despatch from Brownsville, Tex., an express car shortage has been causing great anxiety in that region. In Brownsville, alone, there were 50 carloads of lettuce awaiting shipment. The express companies could not furnish refrigerator cars for ten days. One firm telegraphed the Interstate Commerce Commission and also the State Railroad Commission asking aid.

Summary of Revenues and Expenses of Steam Roads in December.

The Bureau of Railway Economics' summary of revenues and expenses and comments for December, 1912, are as follows: The railways whose returns are included in this bulletin operate 221,077 miles of line, or about 90 per cent. of the steam railway mileage of the United States. Total operating revenues for the month of December, 1912, amounted to \$257,685,590. Compared with December, 1911, the total operating revenues of these railways show an increase of \$29,154,221. These total operating revenues per mile of line amounted to \$1,166 in December, 1912, and \$1,050 in December, 1911, an increase of \$115, or 11.0 per cent. Freight revenue per mile increased 13.2 per cent., and passenger revenue per mile 5.6 per cent.

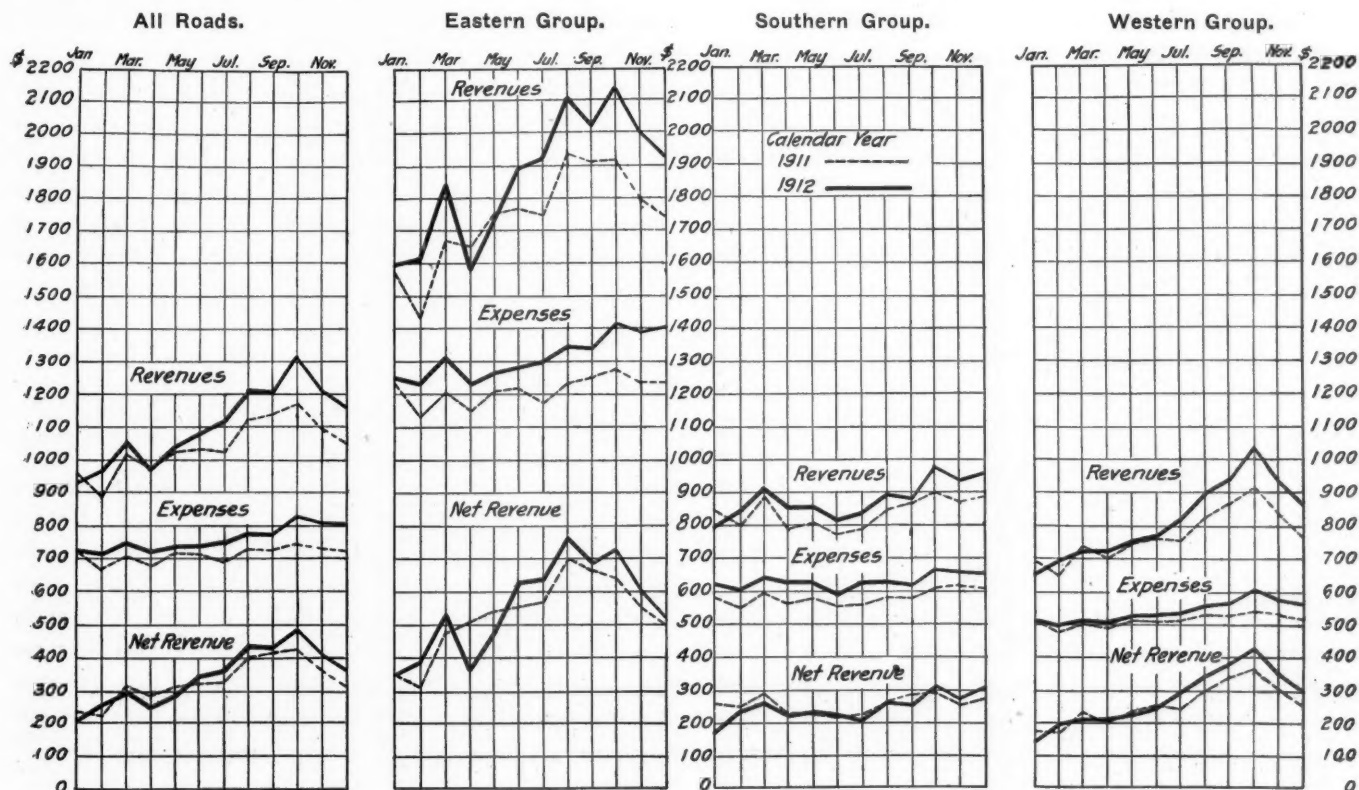
Operating expenses amounted in December to \$177,690,984. This was \$20,467,731 more than for December, 1911. These operating expenses per mile of line amounted to \$804 in December, 1912, and \$723 in December, 1911, an increase of \$81 per mile or 11.2 per cent. All the five primary operating expense accounts showed increases per mile over 1911.

Net operating revenue amounted in December to \$79,994,606. This was \$8,686,490 more than for December, 1911. Net operating revenue per mile of line amounted to \$362 in December, 1912, and \$328 in December, 1911, an increase of \$34 per mile, or 10.4 per cent.

Taxes for the month of December amounted to \$10,501,960, or \$48 per mile, an increase of 3.0 per cent. over December, 1911.

Operating income amounted in December to \$315 per mile of line, and in December, 1911, to \$282. This was an increase of \$33, or 11.8 per cent. Operating income for each mile of line for each day in December averaged \$10, and for December, 1911, \$9. This is the amount available to the railways for rentals, interest on bonds, appropriations for betterments, improvements, new construction and for dividends.

The operating ratio for December was 69.0 per cent., which is



Monthly Revenues and Expenses Per Mile of Line in 1911 and 1912.

comparable with 66.4 per cent. in November, 1912, and 68.8 per cent. in December, 1911.

The eastern group of railways shows an increase in total operating revenues per mile of line as compared with December, 1911, of 10.7 per cent., the southern group an increase of 8.0 per cent., and the western group an increase of 12.9 per cent. Operating expenses per mile increased 13.6 per cent. on the eastern railways, 7.7 per cent. on the southern railways, and 10.4 per cent. on the western railways. For the eastern group of railways net operating revenue per mile increased 3.5 per cent., for the southern group it increased 8.6 per cent., and for the western group it increased 17.9 per cent. The increase in taxes per mile was 3.3 per cent. in the eastern group, 5.5 per cent. in the southern group, and 2.2 per cent. in the western group. Operating income per mile increased 3.6 per cent. in the eastern group, 8.9 per cent. in the southern group, and 21.1 per cent. in the western group.

Comparison of the returns for the six months of the fiscal year with those of the corresponding months of the previous fiscal year reveals an increase in total operating revenues per mile of 9.6 per cent., an increase in operating expenses per mile of 9.0 per cent., and an increase in net operating revenue per mile of 10.8 per cent. This net operating revenue per mile of the eastern group of railways increased 8.5 per cent., as compared with the corresponding period of the previous year, that of the southern group increased 1.5 per cent., and that of the western group increased 16.1 per cent.

Compilation of December returns makes possible a summary of the earnings and expenses of the railways having total operating revenues of \$1,000,000 and over for the calendar year 1912. These lines include 90 per cent. of the steam railway mileage of the United States.

Total operating revenues for 1912 amounted to \$2,923,936,957. This is equivalent to an increase over the previous year of \$787, or 6.3 per cent. per mile of line. Freight revenue per mile increased 8.1 per cent., and passenger revenue per mile 1.0 per cent. Operating expenses increased \$585 per mile, or 6.8 per cent., and net operating revenue per mile increased \$201, or 5.1

per cent. There was an increase in taxes per mile of 7.7 per cent. Operating income per mile of line increased \$163, or 4.7 per cent.

The results by groups are as follows: Net operating revenue per mile increased 4.9 per cent. on the eastern group of railways, and 8.4 per cent. on the western group, but decreased 3.1 per cent. on the southern group. All three groups show increases in total operating revenues per mile and in operating expenses per mile, but it is in the southern group alone that these increased operating expenses overbalance the increase in revenues. Taxes per mile increased 8.0 per cent. on eastern railways, 2.8 per cent. on the southern railways, and 9.3 per cent. on the western railways. Operating income per mile increased 4.3 per cent. on the eastern group of railways; increased 8.4 per cent. on the western group; it decreased 4.0 per cent. on the southern group.

The diagram shows the variations in total operating revenues, operating expenses and net operating revenue per mile for separate months of the calendar years 1911 and 1912. The following table shows the per cent. of operating revenues consumed by each class of expenses:

PER CENT. OF TOTAL OPERATING REVENUES.

| | December | | Fiscal year ending | | Calendar year ending | |
|-----------------------------------|----------|-------|--------------------|-------|----------------------|-------|
| | 1912. | 1911. | 1912. | 1911. | 1912. | 1911. |
| Maint. of way and structures..... | 11.8 | 11.1 | 12.7 | 12.9 | 12.8 | 12.7 |
| Maint. of equipment..... | 16.2 | 15.9 | 15.8 | 15.5 | 16.0 | 15.7 |
| Traffic expenses..... | 2.0 | 2.1 | 2.2 | 2.2 | 2.0 | 2.1 |
| Transportation expenses..... | 36.5 | 37.0 | 35.9 | 35.5 | 35.5 | 35.4 |
| General expenses..... | 2.5 | 2.7 | 2.5 | 2.5 | 2.4 | 2.5 |
| Total operating expenses..... | 69.0 | 68.8 | 69.1 | 68.6 | 68.7 | 68.4 |

Car Location.

The accompanying tables, which are taken from the car location bulletins Nos. 2-A and 3 of the American Railway Association, give summaries of the location of freight cars by groups on January 15 and February 1, 1913, together with surpluses and shortages on the same dates.

CAR LOCATION ON JANUARY 15, 1913.

| | New England. | N.Y., N.J., Del., Md., Eastern Pa. | Ohio, Ind., Mich., Western Pa. | Va., W. Va., No. & So. Carolina. | Ky., Tenn., Miss., Ga., Fla. | Iowa, Ill., Wis., Minn. | Mont., Wyo., Neb., Dakotas. | Kans., Colo., Okla., Mo., Ark. | Texas, La., New Mexico. | Oregon, Idaho, Nev., Cal., Ariz. | Canadi- an Lines. | Grand Total. |
|---------------------------------|-----------------|---|---|---|------------------------------------|----------------------------------|--------------------------------------|---|----------------------------------|---|-------------------------|-----------------|
| Total Cars Owned..... | 86,124 | 675,791 | 284,380 | 196,980 | 170,644 | 456,977 | 16,506 | 150,154 | 29,362 | 127,057 | 114,725 | 2,308,700 |
| Home Cars on Home Roads..... | 39,251 | 340,368 | 83,510 | 96,307 | 68,376 | 276,645 | 3,442 | 64,277 | 11,804 | 61,538 | 75,128 | 1,120,646 |
| Home Cars on Foreign Roads..... | 46,873 | 335,423 | 200,870 | 100,673 | 102,268 | 180,332 | 13,064 | 85,877 | 17,558 | 65,519 | 39,597 | 1,188,054 |
| Foreign Cars on Home Roads..... | 61,354 | 315,420 | 200,045 | 86,625 | 85,241 | 197,576 | 11,857 | 85,129 | 31,364 | 69,771 | 57,303 | 1,201,685 |
| Total Cars on Line..... | 100,605 | 655,788 | 283,555 | 182,932 | 153,617 | 474,221 | 15,299 | 149,406 | 43,168 | 131,309 | 132,431 | 2,322,331 |
| Excess or Deficiency..... | 14,481 | *20,003 | *825 | *14,048 | *17,027 | 17,244 | *1,207 | *748 | 13,806 | 4,252 | 17,706 | 13,631 |
| Surplus | 992 | 5,648 | 3,112 | 6,818 | 1,577 | 5,707 | 780 | 5,610 | 4,072 | 17,691 | 2,653 | 54,660 |
| Shortage | 714 | 2,088 | 1,497 | 1,801 | 5,058 | 7,039 | 559 | 793 | 80 | 1,115 | 4,162 | 24,888 |
| Shop Cars— | | | | | | | | | | | | |
| Home Cars in Home Shops..... | 5,178 | 30,571 | 11,937 | 8,575 | 9,310 | 18,996 | 439 | 7,696 | 1,413 | 3,915 | 3,751 | 101,781 |
| Foreign Cars in Home Shops.... | 1,699 | 8,905 | 8,824 | 1,930 | 2,578 | 5,909 | 740 | 2,492 | 1,261 | 2,370 | 582 | 37,290 |
| Total Cars in Shop..... | 6,877 | 39,476 | 20,761 | 10,505 | 11,888 | 24,905 | 1,179 | 10,188 | 2,674 | 6,285 | 4,333 | 139,071 |
| Per Cent. to Total Cars Owned— | | | | | | | | | | | | |
| Home Cars on Home Roads..... | 45.57 | 50.37 | 29.37 | 48.89 | 40.07 | 60.54 | 20.85 | 42.81 | 40.20 | 48.43 | 65.49 | 48.54 |
| Total Cars on Line..... | 114.32 | 97.04 | 99.63 | 92.87 | 90.02 | 103.77 | 92.69 | 97.34 | 147.02 | 103.35 | 115.43 | 100.59 |
| Home Cars in Home Shops..... | 6.01 | 4.52 | 4.55 | 4.35 | 5.46 | 4.39 | 2.66 | 5.13 | 4.81 | 3.08 | 3.27 | 4.50 |
| Foreign Cars in Home Shops.... | 1.46 | 1.32 | 3.37 | .98 | 1.51 | 1.37 | 4.48 | 1.56 | 4.30 | 1.87 | .51 | 1.65 |
| Total Cars in Shops..... | 7.47 | 5.84 | 7.92 | 5.33 | 6.97 | 5.76 | 7.14 | 6.69 | 9.11 | 4.95 | 3.78 | 6.15 |

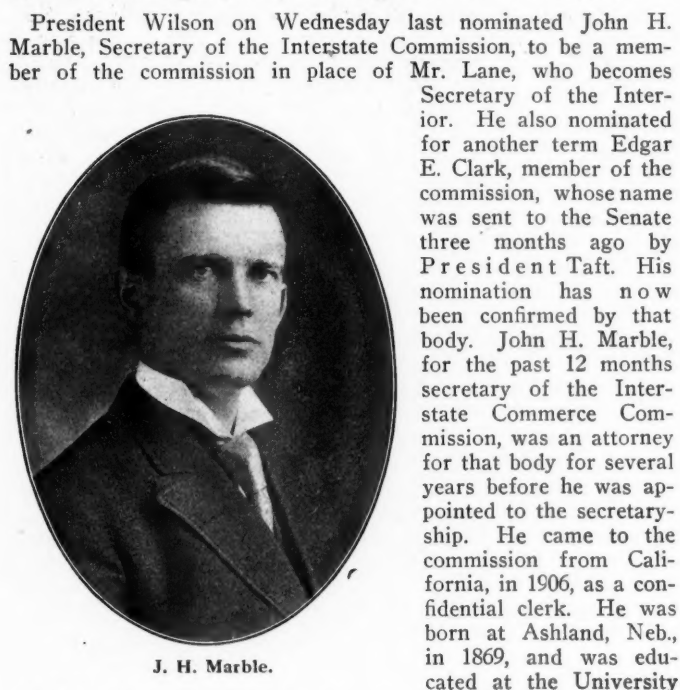
CAR LOCATION ON FEBRUARY 1.

| | N.Y., N.J., Del., Md., Pa. | Ohio, Ind., Mich., Pa. | Va., W. Va., No. & So. Carolina. | Ky., Tenn., Miss., Ga., Fla. | Iowa, Ill., Wis., Minn. | Mont., Wyo., Neb., Dakotas. | Kans., Colo., Okla., Mo., Ark. | Texas, La., New Mexico. | Oregon, Idaho, Nev., Cal., Ariz. | Canadian Lines. | Grand Total. | |
|---------------------------------|----------------------------------|------------------------------|---|------------------------------------|----------------------------------|--------------------------------------|---|-------------------------------|---|--------------------|-----------------|-----------|
| Total Cars Owned..... | 86,878 | 679,881 | 286,921 | 199,593 | 172,507 | 467,865 | 16,857 | 150,750 | 29,025 | 127,172 | 128,522 | 2,345,971 |
| Home Cars on Home Roads..... | 40,996 | 353,086 | 88,821 | 99,654 | 71,846 | 279,573 | 3,314 | 65,923 | 11,154 | 63,339 | 82,458 | 1,160,164 |
| Home Cars on Foreign Roads..... | 45,882 | 326,795 | 198,100 | 99,939 | 100,661 | 188,292 | 13,543 | 84,827 | 17,871 | 63,833 | 46,064 | 1,185,807 |
| Foreign Cars on Home Roads..... | 58,081 | 314,645 | 209,178 | 96,383 | 92,663 | 203,495 | 12,258 | 86,228 | 27,124 | 69,796 | 64,327 | 1,234,178 |
| Total Cars on Line..... | 99,077 | 667,731 | 297,999 | 196,037 | 164,509 | 483,068 | 15,572 | 152,151 | 38,278 | 133,135 | 146,785 | 2,394,342 |
| Excess or Deficiency..... | 12,199 | *12,150 | 11,078 | *3,556 | *7,998 | 15,203 | *1,285 | 1,401 | 9,253 | 5,963 | 18,263 | 48,371 |
| Surplus | 1,334 | 5,887 | 7,867 | 10,450 | 1,189 | 6,747 | 763 | 4,801 | 4,376 | 17,253 | 2,073 | 62,740 |
| Shortage | 484 | 2,141 | 1,088 | 4,232 | 3,714 | 6,572 | 729 | 923 | 60 | 1,167 | 3,771 | 24,881 |
| Shop Cars— | | | | | | | | | | | | |
| Home Cars in Home Shops..... | 5,322 | 28,241 | 13,158 | 8,487 | 9,174 | 18,139 | 426 | 7,289 | 1,225 | 3,872 | 4,312 | 99,645 |
| Foreign Cars in Home Shops.... | 1,417 | 7,838 | 7,286 | 2,046 | 2,616 | 5,526 | 616 | 2,427 | 950 | 2,457 | 772 | 33,951 |
| Total Cars in Shop..... | 6,739 | 36,079 | 20,444 | 10,533 | 11,790 | 23,665 | 1,042 | 9,716 | 2,175 | 6,329 | 5,084 | 133,596 |
| Per Cent. to Total Cars Owned— | | | | | | | | | | | | |
| Home Cars on Home Roads..... | 47.19 | 51.93 | 30.96 | 49.93 | 41.65 | 59.76 | 19.66 | 43.73 | 38.43 | 49.81 | 64.16 | 49.45 |
| Total Cars on Line..... | 111.65 | 98.21 | 103.86 | 98.22 | 95.36 | 103.25 | 92.38 | 98.60 | 131.88 | 104.69 | 114.21 | 102.06 |
| Home Cars in Home Shops..... | 6.12 | 4.16 | 4.59 | 4.25 | 5.32 | 4.13 | 2.53 | 4.89 | 4.22 | 3.05 | 3.36 | 4.30 |
| Foreign Cars in Home Shops.... | 1.12 | 1.15 | 2.54 | 1.03 | 1.51 | 1.26 | 3.65 | 1.52 | 3.27 | 1.93 | .60 | 1.47 |
| Total Cars in Shops..... | 7.24 | 5.31 | 7.13 | 5.28 | 6.83 | 5.39 | 6.18 | 6.41 | 7.49 | 4.98 | 3.96 | 5.77 |

*Denotes deficiency.

INTERSTATE COMMERCE COMMISSION.

The commission has suspended until June 28 the operation of certain tariffs which provide for the discontinuance of free store-door delivery and pick-up service now maintained by the Baltimore & Ohio and the Pennsylvania Railroad in Washington, D. C. This service is extended to shippers and consignees on less than carload shipments originating at or destined to points north of Wilmington, Del., including New York and Boston.



J. H. Marble.

President Wilson on Wednesday last nominated John H. Marble, Secretary of the Interstate Commission, to be a member of the commission in place of Mr. Lane, who becomes Secretary of the Interior. He also nominated for another term Edgar E. Clark, member of the commission, whose name was sent to the Senate three months ago by President Taft. His nomination has now been confirmed by that body. John H. Marble, for the past 12 months secretary of the Interstate Commerce Commission, was an attorney for that body for several years before he was appointed to the secretaryship. He came to the commission from California, in 1906, as a confidential clerk. He was born at Ashland, Neb., in 1869, and was educated at the University of Nebraska. He was in the newspaper business in South Dakota, Wyoming and in California (San Francisco) and was admitted to the bar in California in 1902.

Coal Rates from Iowa to the Dakotas.

In re investigation and suspension of advances in rates by carriers for the transportation of coal in carloads from mines in Iowa to stations in South Dakota, North Dakota and Montana. Opinion by the commission:

The commission found that the defendants had not justified the advances in the rates in question and ordered them to withdraw the suspended tariffs. (26 I. C. C., 144.)

Cottonseed Rates Not Advanced.

In re advances in rates on cottonseed from points in Oklahoma to Little Rock, Ark. Opinion by Commissioner Prouty:

The commission found that the tariffs canceling present joint rates and through rates on cottonseed from points in Oklahoma to Little Rock, Ark., must be withdrawn. (26 I. C. C., 211.)

Rates on Yellow-Pine Lumber Reduced.

Davis Brothers' Lumber Company, Limited, v. Chicago, Rock Island & Pacific et al. Opinion by Commissioner Meyer:

The commission found that the rates on yellow-pine lumber in carloads from Ansley, Bernice, Dubach, and Wyatt, La., to Louisville, Ky., of 25 cents, and to Cincinnati, Ohio, of 27 cents are unreasonable to the extent that they exceed 21 cents to Louisville and 23 cents to Cincinnati, and that for the future the defendants should establish joint rates from and to said points which are not in excess of the rates last named. (26 I. C. C., 257.)

Rates on Nuts Increased.

In re investigation and suspension of advances in rates by carriers for the transportation of edible nuts from New Orleans and Port Chalmette, La., to St. Louis, Mo., and other points. Opinion by Commissioner McChord:

The proposed increased rates on edible nuts from New Orleans and Port Chalmette, La., to St. Louis, Mo., and other points

were found not to be unreasonable. The order of suspension was vacated. (26 I. C. C., 213.)

Minimum Weights on Corn.

In re investigation and suspension of advance in minimum weight on ear corn, snapped corn, and corn in the shuck in carloads by carriers operating in Southwestern Lines territory:

The proposed advance in the minimum weight on ear corn, snapped corn, and corn in the shuck in carloads throughout southwestern lines territory, to 40,000 lbs. was not found to be justified. A flat minimum weight of 40,000 lbs. was found to be reasonable, however, when standard 36-ft. cars or larger are furnished. An order was entered requiring the carriers to cancel the suspended schedules and to maintain the present minimum-weight rule on cars smaller than the standard 36-ft. cars and to establish a 40,000-lb. minimum weight applicable to larger cars. (26 I. C. C., 197.)

Rates on Fuel Wood Not Advanced.

In re investigation and suspension of advances in rates by carriers for the transportation of fuel wood, sawdust, and shavings from stations in Wisconsin and Michigan to Evanston, Ill., and other points. Opinion by Commissioner McChord:

The proposed advanced rates on fuel wood, sawdust, and shavings from stations in Wisconsin and Michigan to Evanston, Ill., and other points were found to be unreasonable. The defendants were ordered to withdraw the suspended tariffs. (26 I. C. C., 254.)

Rates on Fresh Meats Not Advanced.

In re investigation and suspension of advances in rates by carriers for the transportation of fresh meats and packing-house products from Oklahoma City, Okla., and other points to points in the state of New Mexico. Opinion by the commission:

The proposed advances in rates on fresh meats and packing-house products from Oklahoma City, Okla., Fort Worth, Tex., and Wichita, Kan., to all points on the line of the Atchison, Topeka & Santa Fe in New Mexico, excepting coast line points west of Albuquerque, N. Mex., were not shown to be reasonable. The commission ordered the defendant to withdraw the suspended tariff. (26 I. C. C., 154.)

Rates on Sash, Doors and Blinds Not Increased.

In re investigation and suspension of advances in rates by carriers for the transportation of sash, doors and blinds from stations in Louisiana to stations in Texas and between other points. Opinion by Commissioner McChord:

The present rate on sash, doors and blinds between the points in question is the same as the lumber rate. The defendants contend that these products should take a higher rate than the lumber rate, which they said was low and highly competitive in the territory involved. As the reasonableness of the lumber rate was not shown, the commission had to consider the reasonableness of the rate in question without relation to the lumber rate. After looking into the matter of per ton mile revenue, the commission decided that the proposed rate had not been shown to be reasonable and ordered the defendants to withdraw the suspended tariff. (26 I. C. C., 116.)

Fertilizer Rate Reduced.

Meridian Fertilizer Company v. Vicksburg, Shreveport & Pacific et al. Opinion by Commissioner McChord:

Rate of 12 cents per 100 lbs. for the transportation of fertilizer in carloads from Shreveport, La., to Junction City and El Dorado, Ark., was found to be unreasonable to the extent that it exceeds 11 cents, which rate is prescribed for the future. (26 I. C. C., 224.)

Complaint Dismissed.

Mansfield Hardwood Lumber Company v. Tremont & Gulf et al. Opinion by Commissioner Prouty:

The complainant contends that the rate of 31 cents per 100 lbs. for the transportation of cross ties in carloads from Eros, La., to Laredo, Tex., via Winnfield, La., was unreasonable and seeks reparation. The commission found that the joint rate on cross ties from Eros to Laredo via Tremont, Tex., was 25 cents

per 100 lbs. The commission decided that under the circumstances it should not establish a joint rate between the two points in question via Winnfield, a longer and more unnatural route, and also that the rate charged was not unreasonable. (26 I. C. C., 138.)

Ozark Cooperage & Lumber Company v. St. Louis & San Francisco et al. Opinion by the commission:

In this case the complainant contends that the rates for the transportation of cooperage stock from Black Rock, Trumann and Grassy Lake, Ark., to Brownsville, Tex., are unreasonable. The rate from Trumann and Grassy Lake was 42 cents per 100 lbs., and the rate from Black Rock was 47 cents per 100 lbs. The commission decided that these rates were not found to have been unjust or unreasonable. Since the complaint was filed the rates from all the points of origin in question to Brownsville have been reduced to 29 cents per 100 lbs., which is lower than the rate to Arkansas by the complainant. (26 I. C. C., 132.)

Union Tanning Company et al. v. Southern Railway et al. Opinion by Commissioner Clements:

The present adjustment of rates on leather from tanning points in western North Carolina on the lines of the Southern Railway was not found to be unjustly discriminatory or unreasonable. Where the other facts and conditions are substantially uniform or similar, distance may become the dominating factor in the relative adjustment of rates, but by reason of the existence of controlling facts and conditions it may be a minor factor. The weight to be given a comparison of distances varies in different cases and the reasonableness of rates should be determined by considering all of the facts standing together in each case. (26 I. C. C., 159.)

Coal Rates Not Increased.

In re investigation and suspension of advances in rates by carriers for the transportation of soft coal in carloads from Illinois mines to Clinton, Iowa, and other points on the Chicago, Burlington & Quincy. Opinion by Chairman Lane:

The commission found that the proposed advances in the rates on soft coal in carloads from certain mines in Illinois to Clinton and Lyons, Iowa, were not shown to be reasonable, and ordered the defendants to withdraw the suspended tariffs. (26 I. C. C., 179.)

Lumber Rates Not Advanced.

In re investigation and suspension of advances in rates for the transportation of cypress lumber, laths and shingles from points located on the New Orleans, Texas & Mexico to Albany, N. Y., and other points. Opinion by Chairman Lane:

The proposed advances in rail-water-rail rates on cypress lumber from points on the New Orleans, Texas & Mexico, between Baton Rouge and New Orleans, to interior points in the north Atlantic states were not justified. An order will be issued requiring the carriers to cancel the item proposing these advances. (26 I. C. C., 186.)

Rates on Coal Not Increased.

In re investigation and suspension of advances in rates by carriers for the transportation of coal in carloads from Hillsboro and other points in Illinois to Davenport, Iowa, and other destinations in Illinois and Iowa. Opinion by Chairman Lane:

The commission found that the proposed increases in the rates in question had been filed with the idea of securing for the mines on the lines of one of the defendants a differential in the rate which would give to such mines an advantage over other mines which had hitherto been given the same rate basis. The commission ordered the defendants to withdraw the suspended tariffs. (26 I. C. C., 140.)

Soft Coal Rates Not Increased.

In re investigation and suspension of advances in rates by carriers for the transportation of soft coal and soft coal briquettes from southern Illinois mines to stations located on the Gould Southwestern in Arkansas. Opinion by Commissioner McChord:

The existing rates in question range from \$2.25 per ton to \$2.45 per ton, and the proposed advances range from 10 cents

to 50 cents per ton. The defendants contend that these rates were established in anticipation of shipments of domestic coal, but that the only shipments that had been made were to the Gould Southwestern for their engine purposes. The commission found that the proposed advances were not shown to have been unreasonable and dismissed the complaint. (26 I. C. C., 135.)

Sugar Rates Reduced.

W. H. Edgar & Son v. Louisville & Nashville et al. Opinion by Commissioner Harlan:

In this case the complainants contend that the rates for the transportation of beet sugar in carloads from Cincinnati, Ohio, to Knoxville and Chattanooga, Tenn., are unreasonable. No testimony was offered upon which the commission might base any conclusion as to the reasonableness of these rates except by measuring them in their relation to rates in effect elsewhere on the same or related commodities. The commission found that, as compared with the hauls from Baltimore and New Orleans, the through charges exacted of the complainants on shipments to Knoxville and Chattanooga were discriminatory and should be corrected. The part of the through charges which accrues to the defendants' lines south of the Ohio river is the seat of the trouble, and those carriers will be required at once to readjust the rate situation. (26 I. C. C., 181.)

Powerless to Compel Switching Service.

Morris Iron Company et al. v. Baltimore & Ohio et al. Opinion by Chairman Prouty:

In this case the complainant asks the commission to compel the Baltimore & Ohio and the Northern Central to establish switching arrangements with the Frederick Railroad at Frederick, Md. A connection would have to be built between the tracks of the Baltimore & Ohio and those of the Frederick Railroad. The Northern Central now has a connection with the Frederick Railroad, but declines to interchange any cars with that road. The defendants contend that the Frederick Railroad is a part of the Western Maryland and that if they established the switching arrangements in question they would be opening up their terminals to a competitor. The commission found that the terminals of the Frederick Railroad at Frederick were larger than those of either the Baltimore & Ohio or the Northern Central. Under the present arrangement the rates from Frederick to points in the Southeast via the Frederick Railroad are greatly in excess of those via the lines of the defendants. As the Frederick Railroad was not a lateral branch line, the commission could not order a connection between it and the Baltimore & Ohio. The third section of the act to regulate commerce provides that no railroad may be required to give the use of its track or terminal facilities to carriers engaged in like business. Even though the Frederick Railroad would lose by the exchange of terminal facilities with the defendants, the commission was without authority to grant the request of the complainant. The commission found that more industries at Frederick were located on the lines of the Frederick Railroad than on the lines of either of the two defendants and also that if the switching arrangements sought by the complainant were established none of the roads would sustain a serious loss, but the shippers would benefit materially. The commission recommended that a switching connection be made between the Baltimore & Ohio and that the three roads in question enter into reciprocal switching arrangements upon the basis of charges, which, whether stated by the car or by the 100 pounds, should not exceed \$5 per car. As the commission did not have the authority to require this, the complaint was dismissed. (26 I. C. C., 240.)

Responsibility for Furnishing Cars.

In re investigation and suspension of advances in rates by carriers for the transportation of coal from points on the Stony Fork branch of the Louisville & Nashville to various destinations. Opinion by Commissioner Meyer:

The tariffs under suspension propose to cancel the joint rates on coal from points on the Stony Fork branch of the Louisville & Nashville to southeastern territory. The purpose of this proposed change is to relieve the Louisville & Nashville of the

responsibility of the initial carrier and of furnishing cars. The shipments from points on the Stony Fork branch to southeastern territory move to Middlesboro, Ky., over the line of the Louisville & Nashville and thence to destination via the Southern Railway. The Louisville & Nashville contends that the service it performs in this traffic is merely a switching service and it is, therefore, not required to furnish cars for coal destined to move from Middlesboro via the Southern Railway. The Southern Railway contends that it is not the initial line and, therefore, it is under no obligation to furnish cars for loading at mines on the Stony Fork branch. During the latter part of the summer of 1911 both defendants refused to furnish cars, but the Commerce Court placed upon both the obligation to furnish cars for this traffic. The commission finds that, as the service performed by the Louisville & Nashville has already been treated as a line haul in tariffs published by it, it cannot now treat it as a mere switching movement. The carrier, upon whose line shippers are located, must assume the responsibility of furnishing transportation facilities. The Louisville & Nashville is not justified in attempting to avoid the responsibility which rests upon it as the initial carrier in regard to this traffic. Were the proposed tariffs to become effective, the mines of the Stony Fork branch would be discriminated against in favor of their competitors situated on the Cumberland Valley division of the Louisville & Nashville. The Louisville & Nashville will not be compelled to furnish exclusively its own equipment for the traffic moving from the Stony Fork branch to the Southeast under the present tariffs, for the Commerce Court has placed this responsibility upon both. Should the defendants be unable to agree among themselves upon the manner of car distribution, the commission will give that question further consideration. The commission ordered the defendants to withdraw the suspended tariffs. (26 I. C. C., 168.)

Preparation of Cars.

Southwestern Missouri Millers' Club v. St. Louis & San Francisco et al. Opinion by Commissioner Meyer:

During 1908 and 1909 the defendants' tariffs contained the following rule: "When cars furnished by this company for grain or other loading require repairing in order to insure against leakage in transit, and material necessary for repairing is furnished by the shipper, this company will pay the actual cost of same, but not to exceed 80 cents per car." This rule was canceled in 1911 and the complainants seek to have it restored. The Missouri Pacific now has in effect a similar rule restricted to business originating within the switching district in St. Louis. Though cars are now inspected by employees of the carrier before being placed for flour or grain loading, the millers find it necessary to further prepare those cars. The carriers do not deny that shippers frequently have to repair leaks and remove nails which should have been attended to by carriers. Complainants, however, do not confine their prayer for compensation to the cost incurred for repairing leaks and removing nails, but include the cost of lining the sides of the car with paper and padding, the floor with burlap, or a cushion of chaff, hay or straw, irrespective of the condition of the car as to leaks or nails. They even state that they have to line new cars that have never been used before. The reason for this padding is to protect the sacks from being soiled in transportation. The complainants sought reparation but the commission found that the rule in question was not intended to cover the expenditures in preparing cars for flour loading which the complainants seek to have included. The word "leakage" contained in the tariff refers to leakage of grain or other commodities from the car, but not to the leakage from a package to the floor of the car. The commission found that the complainant could recover for any material furnished or work done to the car itself in order to prevent leakage, but they could not recover for inserting the lining in the car. The commission is warranted in taking cognizance of the adequacy or inadequacy of the facilities of transportation of the defendant carriers. It is the duty of carriers to furnish cars suitable for transportation, but a shipper should so pack his commodity as to insure against damage by leakage from the package due to the ordinary incidents of transportation. The commission found that the protection of the sacks from becoming soiled was in the nature of private packing rather than

public equipment. Where special preparation is required to fix a car for the shipment of a particular commodity the task of special preparation ordinarily devolves upon the shipper. The commission found that the provisions for the payment of allowances to the shippers should not be approved, as they would be subject to abuses in the shape of rebates and discriminations because the repairs could not be properly policed. Especially in view of the complainant's contention that every car must be lined for the shipment of flour in sacks, it would be a sounder principle to let the rate take care of such expenditures. The commission decided that the practice of the Missouri Pacific of still granting allowances to millers situated within the switching district of St. Louis was discriminatory and ordered that carrier to discontinue this discrimination. Decision with regard to reparation was withheld until the complainants shall have filed amended specifications setting forth in detail the damages which they intend to recover under this holding. The complainant's prayer for an order requiring carriers to prepare cars for loading grain and flour in a manner indicated by the complainant was denied. (26 I. C. C., 246.)

Consumers Must Be Considered.

In re investigation and suspension of advances in rates by carriers for the transportation of soft coal in carloads from mines in Colorado to stations in Oklahoma and Texas located on the Wichita Falls & Northwestern, the Wichita Falls & Northwestern of Texas and the Wichita Falls & Southern. Opinion by Commissioner Meyer:

The tariffs which have been suspended would abolish all joint rates on coal from mines in Colorado and New Mexico to points in Oklahoma and Texas on the lines of the Wichita Falls & Northwestern system, and would make effective certain combination rates which would result in increases ranging from 60 cents to \$1.20 per ton. The Wichita Falls & Northwestern system, though operated separately, is owned by the Missouri, Kansas & Texas. The defendants did not contend that the present rates were unreasonably low, but considered that the mines in Oklahoma and Arkansas produce sufficient coal for the requirements of the points on their line and felt that that was sufficient justification for the cancellation of rates from other territory. The defendants admitted that if the Wichita Falls & Northwestern was still independent it was entirely likely that no effort would have been made to cancel the present rates. The coal from New Mexico and Colorado mines is more popular at the points in question than is the coal from Texas and Oklahoma mines. Transportation charges are higher on the western coal, but the cost of production is lower, so it is able to compete with the Oklahoma and Texas coal. The commission found that the defendants, in their desire to serve the Oklahoma coal industry, should not brush aside the rights of the western producers to compete with Oklahoma producers and other consumers to receive the benefit of this competition. The commission decided further that the defendants could not operate their lines solely with a view to increasing their revenue and for the industries reached by them without regard to the interests of their patrons, except where such interests further their purpose. The commission declared that the present rates are reasonable and that the proposed advances would result in undue discrimination and ordered the defendants to withdraw the suspended tariffs. (26 I. C. C., 216.)

STATE COMMISSIONS.

The Texas railroad commission has called a hearing for March 11 on a schedule of proposed changes in the rules and regulations for the handling of baggage.

The Public Utilities Commission of New Jersey has ordered the Delaware, Lackawanna & Western to continue to honor season passes issued by it to 260 officers of the state. The road recently directed its conductors not to recognize these passes, and a member of the State Water Supply Commission appealed to the Public Utilities Commission.

The Indiana State Railroad Commission has sued the Cincinnati, Hamilton & Dayton in the Circuit Court of Indianapolis

for disobedience of the order of the commission requiring automatic block signals to be installed on the company's line eastward from Glenwood to the Ohio State line. The commission's bill says that since January 1, 1913, the company has been running trains unlawfully between these points.

The Texas Railroad Commission has amended its stopping in transit rules so that Rules 7 and 12 will read substantially as follows: "When shipments of grain, etc., are placed in a mill or other place of storage at stopping point, not reached by the tracks of the line bringing the same into that point, the cost of switching from and returning to such initial line, shall be borne by the carrier."

The Texas railway commission has issued an order providing for a periodical investigation of the operation of passenger trains for the purpose of detecting violations of the law against running trains more than 30 minutes late. The commission will issue calls at least every six months requiring the roads to submit statements of the operation of their passenger trains for a 30-day period. Where the 30-minute law has been violated the cases will at once be reported to the attorney general for prosecution, unless legal excuse can be made. It is stated that heretofore the enforcement of this law has been of a haphazard character.

The decision of the California Railroad Commission in the application of the Union Pacific, Southern Pacific and Central Pacific for approval of the plan for changes in ownership of these properties was briefly noticed in our last issue, page 405. From the full text of the decision it appears that the commission asserts the right to name the terms on which the Central Pacific shall be sold by the Southern to the Union, and the terms of all leases and joint trackage rights. Says the commission: "There is reason for grave fear that if the agreement is carried out, this state will, instead of securing two strong competing lines, secure one dominant line and one much impaired line." Continuing, the decision says: "The price at which the properties covered by the agreement between the applicants hereto shall be sold or the valuation on which its rentals shall be based, as the case may be, shall be only such price and valuation as shall first have been formally approved by the Railroad Commission." All terminals used jointly by the Central and the Southern in California must be opened to any other road desiring the use of them, provided equitable compensation is tendered. The commission will decide what is equitable. Within sixty days from the effective date of said agreement the parties must file with the commission joint rates and fares for the transportation of freight and passengers between all points in the state of California.

COURT NEWS.

A temporary injunction has been issued by the federal court at Carson City, Nev., restraining the state authorities from putting into effect the three-cent passenger fare ordered by the state railroad commission.

Arguments relating to the form of the decree to be entered in compliance with the decision of the Supreme Court in the "anti-trust" case against the Terminal Railroad Association of St. Louis, were presented before Judges Sanborn, Hook and Smith, at St. Louis, on February 25. Attorney General Wickersham and E. C. Crow, representing the government, objected to the continuation of an arbitrary element in the rates on traffic originating within the one-hundred-mile zone.

In the United States District Court at St. Louis, March 4, the government filed a suit against the St. Louis Coal Traffic Bureau to enjoin the bureau and the roads connected with it from regulating and agreeing on the rates on coal from Illinois mines to St. Louis. The court also is asked to dissolve the bureau as a combination in restraint of trade. It is said that the immediate occasion of this suit is a tariff, which was to go into effect April 1, increasing the rates on coal 5 cents a ton. All of the 24 roads interested in the Terminal Railroad Association and the Merchants' Bridge Terminal Company are made defendants.

Railway Officers.

Executive, Financial and Legal Officers.

A. H. Smith, vice-president of the New York Central & Hudson River, has been elected senior vice-president of the New York Central Lines.

Samuel C. Stickney, who has been doing special work under the direction of the vice-president in charge of operation on the Erie, has been appointed assistant to the president, with office at New York.

R. Kemp Slaughter has been appointed auditor of the Atlanta, Birmingham & Atlantic, succeeding J. L. Hamar, resigned, and F. K. Mays has been elected treasurer, succeeding H. M. Milam, resigned, both with offices at Atlanta, Ga.

W. T. Irwin, formerly president of the Peoria Railway Terminal Company, has been appointed general counsel, with headquarters at Peoria, Ill., succeeding William Jack. B. A. Worthington succeeds Mr. Irwin as president. George H. Crosby has been appointed secretary and treasurer, with office at Chicago, to succeed T. A. Greer, secretary, and T. F. Scanlon, treasurer. W. H. Burns has been appointed auditor, with headquarters at Chicago, in place of R. H. Hardin.

Operating Officers.

W. P. Moran has been appointed trainmaster of the Chicago, Milwaukee & St. Paul, with office at Savanna, Ill., in place of N. P. Thurber, promoted.

L. H. Cecil has been appointed assistant superintendent of the Louisiana lines of the Southern Pacific Company, with headquarters at Lafayette, La.

Caleb Corser has been appointed superintendent of the Copper River & Northwestern, with office at Cordova, Alaska, to succeed George Geiger, resigned.

John H. Harris has been appointed general manager of the Peoria Railway Terminal Company, with headquarters at Peoria, Ill., in place of J. H. Franke.

The office of A. J. Donegan, assistant superintendent of the Algoma Central & Hudson Bay, has been transferred from Michipicoten Harbor, Ont., to Hawk Junction.

James E. Farrell has been appointed assistant to the general manager of the United Fruit Company and the Northern Railway (Costa Rica), with office at San José, Costa Rica.

The position of C. G. Smith, trainmaster of the Erie, at Cleveland, Ohio, has been abolished, and the authority of P. Minehan, trainmaster at Youngstown, has been extended over the entire division.

E. N. Brown, formerly assistant general superintendent of the Southern Pacific of Mexico, at Empalme, Mex., has been appointed division superintendent of the Chicago & Eastern Illinois, with office at Danville, Ill., succeeding John C. Muir, resigned.

E. A. Patterson, assistant superintendent of telegraph of the Chicago, Milwaukee & St. Paul, has been appointed superintendent of telegraph, with office at Milwaukee, Wis., to succeed U. J. Fry, deceased. A. C. Adams succeeds Mr. Patterson, with headquarters at Chicago.

F. Cone, assistant division superintendent of the Chicago, Burlington & Quincy at St. Louis, Mo., has been appointed assistant superintendent of the LaCrosse division, with headquarters at LaCrosse, Wis. A. J. Carter has been appointed trainmaster at Aurora, Ill., in place of G. A. Law, promoted.

George Ross, assistant superintendent of the Oregon Short Line at Salt Lake City, Utah, has been appointed an assistant superintendent of the Oregon-Washington Railroad & Navigation Company, with headquarters at La Grande, Ore., succeeding J. W. Anderson, resigned to accept service with another company.

Guy L. Anderson, clerk and assistant to R. B. Miller, traffic manager of the Oregon-Washington Railroad & Navigation Company, has been appointed general manager of the Sumpter Valley, with headquarters at Baker City, Ore. He was born

at Portland 28 years ago, and began railway work at the age of 18 as a messenger boy.

Fred J. Byington, who recently was appointed superintendent of the West Iowa division of the Chicago & North Western, with headquarters at Boone, Ia., was born September 3, 1876, at Rochelle, Ill. He received a common school education, and began railway work June 1, 1890, with the Chicago & North Western as a telegraph operator on the Galesburg division. With the exception of one year with the Union Pacific as train despatcher, his entire service has been with the North Western as a telegrapher, train despatcher, chief train despatcher and assistant superintendent on various divisions until his recent promotion as division superintendent, as above noted.

George Edwin Simpson, who recently became general supervisor of transportation of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, was born on May 25, 1847, at Concord, N. H. He began railway work October 1, 1864, as a telegraph operator with the Chicago, Burlington & Quincy. He was later agent and operator at Buda, Ill., and then to 1882 was train despatcher and chief train despatcher at Galesburg and Aurora, Ill., and Ottumwa, Ia. In the latter year he left the Burlington to take the position of superintendent of telegraph of the Chicago, Milwaukee & St. Paul, and in 1888 he was made superintendent of transportation of that road, which position he held until his recent promotion to general supervisor of transportation, as above noted.

George C. Randall, who, on February 1, became superintendent of transportation of the Colorado & Southern, with headquarters at Denver, Col., as already announced in these columns, was born March 31, 1883, at Northfield, Vt. He was graduated from Norwich University in 1904. Prior to attending college he was a telegraph operator for the Boston, Concord & Montreal, now a part of the Boston & Maine, and on July 10, 1904, immediately after completing his college course, he went to the Colorado & Southern as a clerk in the superintendent's office at Cheyenne, Wyo. From October, 1904, to September, 1906, he was chief train despatcher at Cheyenne, and was then made chief clerk in the car service office at Denver, which position he held until his recent appointment as superintendent of transportation, as above noted.

J. A. Somerville, whose appointment as superintendent of transportation of the Missouri Pacific and the St. Louis, Iron Mountain & Southern, with headquarters at St. Louis, Mo., has been announced, was born in 1867 at Carthage, Ill. He began railway work in 1887 with the Chicago, Burlington & Quincy as a messenger at Keokuk, Ia. He remained with the Burlington until about four years ago, and filled the various positions of local agent at Keokuk, chief clerk in the general freight office at St. Louis, contracting freight agent at St. Joseph, Mo., general agent of all departments at Hannibal, Mo., local agent at St. Louis, and general agent at Keokuk, and superintendent of terminals at St. Louis. He resigned the latter position to go with the Missouri Pacific as superintendent of terminals at Kansas City, Mo., which position he held until his recent appointment as general superintendent of transportation, as noted above.

Fred M. Melin, who recently was appointed superintendent of the Hastings & Dakota division of the Chicago, Milwaukee & St. Paul, with office at Aberdeen, S. D., was born September 6, 1868, at Port Washington, Wis. He was educated in the common schools and began railway work in September, 1884, as night operator for the Milwaukee & Northern at Plymouth, Wis. From March, 1887, to January, 1891, he was train despatcher of that road, and then to June, 1893, chief train despatcher of the Calumet Terminal Railway at East Chicago, Ind. On the latter date he went to the Iowa Central as train despatcher and ten years later became train despatcher on the Hastings & Dakota division of the Chicago, Milwaukee & St. Paul at Minneapolis, Minn. Six months afterwards he was made chief despatcher, and from June, 1903, to March, 1908, he was trainmaster on that division, when he was transferred to the Puget Sound in a similar capacity. He was promoted to superintendent of the Musselshell division in August of that year, and in July, 1909, he was made superintendent of the Rocky Mountain division. In October of the following year he was transferred to the superintendency of the LaCrosse and Northern divisions at Milwaukee, Wis., where he remained until

his recent appointment as superintendent of the Hastings & Dakota division, as above noted.

C. G. Stecher, who has been appointed to the newly created position of signal instructor for the Chicago & North Western, as noted elsewhere in this issue, was born in Germany in 1873,



C. G. Stecher.

and came to this country in 1899. He began railway work as a lampman and batteryman on the Chicago & North Western at South Milwaukee, Wis. In September, 1902, he was promoted to the position of maintainer at Racine, Wis., and the following April to that of repairman in Chicago. He later served as lamp and signal inspector and then as electrician and foreman on the old Chicago Terminal. In September, 1907, he was promoted to supervisor of signals in Iowa, with headquarters at Boone. He was transferred to Chicago in September, 1910, and served as chief inspector on the final

signal construction work in connection with the new passenger terminal. On the completion of this work, June 1, 1901, he was appointed supervisor of signals of the Chicago terminal, and held this position until his recent appointment as signal instructor.

Herbert S. Balliet, engineer of maintenance of way of the Grand Central Terminal and signal engineer of the Electric division of the New York Central & Hudson River, with head-



H. S. Balliet.

quarters at New York, has been appointed assistant manager of the Grand Central Terminal. He continues to perform the duties of signal engineer of the Electric division, and engineer of maintenance of way of the terminal. Mr. Balliet was born in Neffsville, Pa., in 1868, and was for several years a telegraph operator, working both for the Western Union Company and for the United Press Association. He was at one time station agent and operator on the Philadelphia & Reading. He began on the Lehigh Valley as operator, but he soon went into the signal department and was engaged in that department eleven years—from 1894 to 1905.

He was appointed assistant signal engineer in 1901. He left the Lehigh Valley to go to the New York Central in April, 1905. For two years, 1905-1906, he was secretary of the Railway Signal Association. He has been one of the most prominent members of that association from its earliest years, and in 1910 he was its president. In his position at the Grand Central during the past five years he has had charge of the construction of the extensive new tracks and signaling connected with the establishment of the new two-level station.

Traffic Officers.

Robert John has been appointed soliciting freight agent of the Gulf, Colorado & Santa Fe at Houston, Tex.

E. W. Eichenberger has been appointed traveling freight agent of the Lehigh Valley, with office at Pittsburgh, Pa.

C. A. Land has been appointed general agent of the Atlanta, Birmingham & Atlantic, with office at Talladega, Ala., succeeding W. W. Breedlove.

F. E. Clarke has been appointed traveling passenger agent of the Chicago & Alton, with office at St. Louis, Mo., in place of J. M. Mauden, resigned.

Lucian T. Rice has been appointed commercial agent of the Louisville, Henderson & St. Louis, with office at Louisville, Ky., succeeding E. G. Jones, resigned.

R. C. Perkins has been appointed soliciting freight agent of the Missouri & North Arkansas, with office at New Orleans, La., succeeding C. E. Trust, resigned.

George B. Haynes, assistant general passenger agent of the Chicago, Milwaukee & St. Paul, has been appointed general passenger agent, with headquarters at Chicago, effective March 1.

J. S. Bloodworth, city passenger and ticket agent of the Southern at Savannah, Ga., has been promoted to traveling passenger agent, with office at Macon, Ga., succeeding C. A. Carson, Jr., deceased and George G. Walker succeeds Mr. Bloodworth.

John H. Bunch has been appointed general freight and passenger agent of the Copper River & Northwestern, and the Alaska Steamship Company, with office at Seattle, Wash., to succeed C. J. Jones, traffic manager, resigned to accept service elsewhere.

George A. Bergen, assistant general freight agent, in charge of coal and coke traffic of the Erie and subsidiary companies, with office at New York, has been appointed coal traffic manager, with office at New York, and his former position has been abolished.

J. J. Rose has been appointed Canadian passenger agent of the Union Pacific System at Toronto, Ont., in place of George W. Vaux, transferred. W. H. Benham has been appointed general agent at Cleveland, Ohio. S. A. Myers has been appointed district passenger agent, and J. J. Kientz, city passenger agent, both with headquarters at Pittsburgh, Pa. C. C. Phillips and Herbert J. Farber have been appointed traveling freight agent, both with headquarters at Pittsburgh.

R. C. Wallis, district passenger agent of the Louisville & Nashville, at Nashville, Tenn., has been appointed division passenger agent, with headquarters at St. Louis, Mo., succeeding J. E. Davenport, resigned; Geo. E. Herring, traveling passenger agent at Cleveland, Ohio, succeeds Mr. Wallis; J. I. Zempke succeeds Mr. Herring; J. H. Settle is now district passenger agent, with headquarters at Birmingham, Ala., and E. G. Jones has been appointed city passenger agent at Louisville, Ky., succeeding Mr. Settle.

W. A. Cox, general freight agent of the Western Maryland at Pittsburgh, Pa., has resigned, and his former position has been abolished. Dudley G. Gray, formerly general freight agent of the Baltimore & Ohio, at Pittsburgh, has been appointed general western freight agent of the Western Maryland, with office at Pittsburgh, and he will have charge of all matters heretofore handled by the general freight agent. The titles of J. S. Talbot, general western agent at Chicago, and of Orno M. Brown, general eastern agent at New York, have been changed to general agent.

Fred H. Law, whose appointment as assistant general freight agent of the Illinois Central, with headquarters at St. Louis, Mo., has already been announced, was born November 10, 1876, at Sheridan, Ill. He received a high school education and began railway work with the Illinois Central in August, 1897. He filled various positions in the office of the assistant general freight agent at St. Louis until June 1, 1907, when he was advanced to commercial agent at that point. In October, 1909, he was transferred to Pittsburgh, Pa., in a similar capacity, where he remained until February, 1911, when he was made assistant general freight agent of the Illinois Central and the Yazoo & Mississippi Valley, with headquarters at Memphis, Tenn. He held the latter position at the time of his recent promotion as assistant general freight agent, as above noted.

W. G. Carmichael has been appointed traveling passenger agent of the Union Pacific system, with headquarters at Pittsburgh, Pa. C. J. Collins has been appointed traveling passenger

agent at Cincinnati, O., in place of Earl Z. Giblon, resigned, to take service with another road. John J. Klenke has been appointed traveling freight agent, with office at Cincinnati, succeeding Lyon Liston, resigned, to go with another company. F. B. Swope has been appointed traveling freight agent, with office at Cincinnati, in place of S. C. Sigler, resigned, to accept service with another road.

Richard Joseph DeLong, whose appointment as assistant general passenger agent of the Pennsylvania Railroad, with headquarters at Philadelphia, Pa., has been announced in these columns, was born on July 10, 1854, in Lehigh county, Pa., and after leaving the public schools, attended the Pennsylvania State Normal School, at Millersville, Pa., from which institution he was graduated in the class of 1875. He entered the service of the Pennsylvania Railroad, on December 1, 1883, and was stenographer and special clerk in the passenger department until October 1, 1892, when he was promoted to chief clerk of the advertising department. Four years later he was placed in charge of the company's "personally conducted" tourist bureau. On January 1, 1900, he was promoted to chief clerk to the assistant general passenger agent, and in July, 1903, he was made division ticket agent of the West Jersey & Seashore. He was transferred to the New Jersey division, in a similar capacity, on June 1, 1910, and now becomes assistant general passenger agent as above noted.

David Nelson Bell, whose appointment as general passenger agent of the Pennsylvania Railroad, with headquarters at Philadelphia, Pa., has been announced in these columns, was born in Philadelphia, on November



D. N. Bell.

18, 1868. After graduating from the public schools of his native town, he entered the general office of the passenger department of the Pennsylvania Railroad on July 5, 1885. He was appointed assistant advertising agent in April, 1891, and in November, 1896, was made tourist agent of the same road. On June 1, 1903, he was appointed special assistant to the general passenger agent, and was promoted in August, 1906, to division ticket agent of the United Railroads of New Jersey division. He remained in this position until June 1, 1910, when

he was appointed assistant general passenger agent, in charge of through traffic of the same road, with headquarters at Philadelphia, which position he held at the time of his recent appointment as general passenger agent, with headquarters at Philadelphia, as above noted.

Joseph Laurens Sheppard, who recently was appointed assistant general freight agent of the Illinois Central and the Yazoo & Mississippi Valley, with headquarters at Memphis, Tenn., was born June 11, 1881, near Greenville, S. C. He was educated in the public schools of Memphis, and began railway work July 1, 1896, as a messenger in the office of the assistant general freight agent of the Chesapeake, Ohio & Southwestern at Memphis, Tenn. When that road was absorbed by the Illinois Central in July, 1896, he became messenger in the local freight office of the latter road at Memphis. He filled various minor positions in the local freight office of the Illinois Central and the Yazoo & Mississippi Valley until July 1, 1903, and in September of that year was made export bill of lading clerk in office of the commercial agent at Memphis. One year later he was advanced to chief clerk in that office, and in July, 1906, he was transferred to the general freight agent's office at Memphis as rate quotation clerk, and filled various clerical positions in that office, including that of chief clerk, from which he was promoted to assistant general freight agent, as above noted.

Colin Studds, who has been appointed assistant general passenger agent of the Pennsylvania Railroad, with headquarters at Philadelphia, Pa., as has been announced in these columns, was born in Fairfax county, Virginia, on November 23, 1861. After attending private and public schools, he entered the service of the Baltimore & Potomac, now a part of the Philadelphia, Baltimore & Washington, at Washington, D. C., in the telegraph department. For several years he served in various offices as telegraph operator, and, in 1882, entered the passenger department of the Southeastern district, as a stenographer. He was then promoted to chief clerk and city passenger agent, at Washington, and in June, 1889, was transferred to the tourist department, at Philadelphia. In August, 1892, he was appointed passenger agent of the Atlantic City district, and ten years later was transferred in the same capacity, to the Southeastern district, at Washington. On January 1, 1903, he went to New York, in charge of the Eastern district, and was then appointed passenger agent in charge of the New York district, which position he held at the time of his recent appointment as assistant general passenger agent as above noted. His entire service has been with the Pennsylvania Railroad System.

James Paul Anderson, who has been appointed general passenger agent of the Pennsylvania Railroad, with headquarters at Philadelphia, Pa., as has been announced in these columns,



J. P. Anderson.

was born at Beaver, Pa., on August 29, 1862, and received his education in the public schools at Beaver and at Allegheny. He entered the service of the Allegheny Valley on July 15, 1880, as a clerk in the passenger department. After serving as chief clerk and traveling passenger agent, he was appointed general passenger agent of the same road in June, 1889, and when the Pennsylvania Railroad absorbed the Allegheny Valley in August, 1900, he was appointed division ticket agent of the Buffalo & Allegheny Valley division, now the northern division of the Pennsylv-

ania Railroad. On April 1, 1910, he was made district passenger agent of the Pittsburgh district, and in August, 1912, was promoted to assistant general passenger agent of the Pennsylvania Railroad Lines east of Pittsburgh and Erie, with headquarters at Philadelphia, which position he held at the time of his recent appointment as general passenger agent of the same road, as above noted.

Engineering and Rolling Stock Officers.

V. K. Hendricks, principal assistant engineer of the St. Louis & San Francisco, has been appointed assistant chief engineer, with headquarters at Springfield, Mo.

The jurisdiction of C. R. Diemar, assistant engineer of the Baltimore & Ohio Southwestern at Cincinnati, O., extends also over the Cincinnati, Hamilton & Dayton.

J. E. Gardner has been appointed electrical engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, to succeed H. A. Gardiner, resigned; effective March 1.

W. W. Hubley has been appointed assistant supervisor of division No. 9, Middle division of the Pennsylvania Railroad, with office at Altoona, Pa., succeeding H. A. Gass, promoted.

M. B. McPartland has been appointed general foreman, locomotive department, of the Rock Island Lines, with office at Cedar Rapids, Iowa, succeeding L. C. Neyer, assigned to other duties.

F. L. Wells, signal supervisor on the Western Iowa division of the Chicago & North Western, has been transferred to the Chi-

cago Terminal as signal supervisor to succeed C. G. Stecher, appointed signal instructor, and K. E. Kellenberger, signal inspector in the office of J. A. Peabody, signal engineer, has been appointed signal supervisor on the Western Iowa division of that road to succeed him.

R. F. Morkhill has been appointed signalling engineer of the Grand Trunk, with offices at Montreal, Que., succeeding C. A. Dunham, resigned, to resume his old duties as signal engineer of the Great Northern, with headquarters at St. Paul, Minn. Mr. Morkhill was born at Sherbrooke, Que., and about six years ago was in charge of the signalling on the Central South African Railways. He was then in the sales department at New York of the Union Switch & Signal Company, and was later one of the assistant engineers for that company engaged in the construction of the New York terminal of the Pennsylvania Railroad. Later he went to the Railway Signal Company of Canada.

Joseph Chidley, whose appointment as assistant superintendent of motive power of the Lake Shore & Michigan Southern, the Chicago & Indiana Southern and the Indiana Harbor Belt, with headquarters at Cleveland, Ohio, has been announced in these columns, entered the service of the Lake Shore & Michigan Southern on March 28, 1890, as a machinist at the Elkhart, Ind., shop, and was transferred in February, 1892, as machinist to Chicago. He was promoted to foreman machinist at Englewood, Ill., in February, 1900, and later was acting foreman at the same place until December, 1900, and was then night foreman at Elkhart, Ind., until January, 1901. The following May he was promoted to foreman at Air Line Junction, Ohio, and was made assistant master mechanic at Elkhart in November, 1904, remaining in that position until July, 1906, when he was made master mechanic at Collinwood, Ohio, and now becomes assistant superintendent of motive power of the same road, as above noted.

Nicholas Luke Smitham, whose appointment as assistant superintendent of motive power of the Missouri, Kansas & Texas Railway of Texas, with headquarters at Denison, Tex., has already been announced in these columns, was born in December, 1862, at Cornwall, England. He was educated in the public schools of Hazleton, Pa., and began railway work in 1877 as boilermaker apprentice with the Lehigh Valley. In the latter part of 1881 he went with the Colorado Iron Works at Denver, Colo., as boilermaker, remaining there a year, and then until the latter part of 1883 was with the Denver & South Park Railway as boilermaker. From that time until December, 1884, he was employed by the Denver & Rio Grande in a similar capacity, leaving to go to the Houston & Texas Central at Houston, Tex. In March, 1885, he was transferred to Walnut Springs, Tex., as general foreman in charge of boiler work. He was made general foreman of the Texas Midland at Terrell, Tex., in 1893, and two years later was promoted to master mechanic, resigning in January, 1901, to become master mechanic of the Texas Central at Walnut Springs, Tex. He then returned to the Texas Midland as master mechanic, and nine months later again entered the service of the Texas Central as master mechanic, which position he held until his recent appointment as assistant superintendent of motive power, as above noted.

David McCooe, who has been appointed superintendent of track of the Toronto, Ont., terminals of the Grand Trunk, as has been announced in these columns, was born on February 24, 1859, at Portadown, Ireland. He began railway work on March 1, 1872, on the Vandalia, and during the next seven years was consecutively water boy, section and extra gang foreman on that road. From August, 1879, to November, 1888, he was extra gang foreman and roadmaster on the Wabash, and then to November, 1890, was roadmaster on the Kansas City & Southern, now a part of the St. Louis & San Francisco. He was then freight and passenger conductor on the Fort Worth and Rio Grande until March, 1892, and then during the next five years was freight and work train conductor on the Wabash. On April 1, 1898, he went to the Grand Trunk as roadmaster. In May of the following year he was promoted to general roadmaster, and in September, 1910, was appointed superintendent of grade separation, which position he held at the time of his recent appointment as superintendent of track on the same road, as above noted.

George McCormick, whose appointment as assistant general manager of the Sunset-Central Lines of the Southern Pacific, with headquarters at Houston, Tex., has already been announced, was born July 15, 1872, at Columbus, Colorado county, Tex. He was graduated from the Agricultural and Mechanical College at Bryan, Tex., with the degree of Mechanical Engineer, in 1891. He began railway work in 1891 as apprentice in the shops of the Galveston, Harrisburg & San Antonio at Houston, Tex. In a short time he was transferred to San Antonio, Tex., as draftsman, returning to Houston in 1895 as chief draftsman. He was appointed mechanical engineer in 1900, where he remained until December 20, 1911, when he went to El Paso, Tex., as assistant superintendent of the El Paso division. He held the latter position until his appointment on February 17 as assistant general manager (mechanical) of all the Sunset-Central Lines, as above noted.



G. McCormick.

Purchasing Officers.

A. F. McCool, chief clerk to the purchasing agent of the St. Louis & San Francisco at St. Louis, Mo., has been appointed assistant purchasing agent of the south Texas and Louisiana lines, with headquarters at Houston, Tex., succeeding J. L. White, resigned.

Special Officers.

Allan Pollak has been appointed superintendent of dining cars, hotels and restaurants of the Pacific system of the Southern Pacific, with headquarters at San Francisco, Cal., to succeed D. Urquhart, resigned.

OBITUARY.

Otto Brendler, trainmaster of the Chicago, Milwaukee & St. Paul at Green Bay, Wis., died on February 28, aged 51 years.

Charles Greenleaf Wood, who, from 1900 to 1902, was treasurer of the Vera Cruz & Pacific, now a part of the National Railways of Mexico, died on March 2, at his home in New York, at the age of 61.

James Clark Young, signal engineer of the Union Pacific, died at St. Joseph's Hospital, Omaha, Neb., at noon on February 27, 1913, following an operation performed for the removal of a tumor. Mr. Young was born in Washington, D. C., March 15, 1876, and was educated at the Montana College of Agriculture and Mechanic Arts at Bozeman, Mont., taking a course in applied science. He began railway work in January, 1897, as apprentice in the signal department of the Southern Pacific at Los Angeles, Cal. On August 1, 1900, he was appointed signal foreman, and on December, 1901, signal supervisor on the Los Angeles division of the Southern Pacific. He was transferred to San Francisco and made assistant signal engineer on October 15, 1904. On April 5, 1906, he was appointed signal engineer on the Union Pacific lines east of Green River, Wyo., with headquarters at Omaha, Neb. His jurisdiction as signal engineer was extended to include the lines from Green River to Ogden, Utah, on November 15, 1907. He remained in this position until the time of his death. He was a member of Committee I. on Signal Practice, of the Railway Signal Association, and Committee X, on Signals and Interlocking, of the American Railway Engineering Association. He was buried at Los Angeles, and is survived by his mother and a sister, Mrs. Walter Harvey of Seattle, Wash.

Equipment and Supplies.

LOCOMOTIVE BUILDING.

THE GRAND TRUNK is considering the purchase of 100 locomotives.

THE PENNSYLVANIA RAILROAD is in the market for 144 locomotives.

THE SAO PAULO & RIO GRANDE, Brazil, is in the market for 10 switching locomotives.

THE GRAND RAPIDS & INDIANA is in the market for 4 six-wheel switching locomotives.

THE ERIE has ordered 10 Pacific type locomotives from the American Locomotive Company.

THE CHESAPEAKE & OHIO has ordered 9 locomotives from the Baldwin Locomotive Works.

THE CHICAGO & WESTERN INDIANA is in the market for 5 six-wheel switching locomotives.

THE NEW YORK CENTRAL & HUDSON RIVER is having 50 Pacific type locomotives converted into mikado locomotives.

THE KANSAS CITY SOUTHERN has ordered 4 six-wheel switching locomotives from the American Locomotive Company. These locomotives will be equipped with superheaters, will have 20 in. x 28 in. cylinders, 50 in. driving wheels, and in working order will weigh 156,000 lbs.

J. D. McARTHUR COMPANY, LTD., has ordered two mogul locomotives from the American Locomotive Company. The dimensions of the cylinders will be 19 in. x 26 in., the diameter of the driving wheels will be 50 in., and the total weight in working order will be 130,000 lbs.

THE CANADIAN COPPER COMPANY has ordered one mogul locomotive from the American Locomotive Company. The dimensions of the cylinders will be 20 in. x 26 in., the diameter of the driving wheel will be 50 in., and the total weight in working order will be 155,000 lbs.

THE HANG YANG IRON & STEEL WORKS has ordered 2 four-wheel switching locomotives from the American Locomotive Company. The dimensions of the cylinders will be 14 in. x 22 in., the diameter of driving wheels will be 44 in., and the total weight in working order will be 50,000 lbs.

THE BALTIMORE & OHIO has ordered 60 mikado locomotives and 30 Pacific type locomotives from the Baldwin Locomotive Works, and 10 Mallet locomotives from the American Locomotive Company. The Mallet locomotives will be equipped with superheaters, will have 26 in. and 41 in. x 32 in. cylinders, 57 in. driving wheels, and in working order will weigh 470,000 lbs.

CAR BUILDING.

THE SEABOARD AIR LINE is in the market for 1,500 freight cars.

THE PENNSYLVANIA RAILROAD is in the market for 307 passenger cars.

THE PENNSYLVANIA LINES WEST are in the market for 87 passenger cars.

THE ERIE has ordered 1,500 freight cars from the Western Steel Car & Foundry Company.

THE LEHIGH VALLEY is building 50 flat cars in the company's shops. On completion of this order an additional 50 flat cars will be built.

IRON AND STEEL.

THE MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE has ordered 190 tons of bridge steel from the American Bridge Company, and 896 tons of girder span plates from the Wisconsin Bridge & Iron Company and the Chicago Bridge Company.

Supply Trade News.

The Jennison-Wright Company announces that Frank W. Cherrington has become affiliated with it as chief engineer, with headquarters at Toledo, Ohio.

R. C. Fraser, representative of the Buffalo Brake Beam Company, has been made vice-president of the company, with headquarters at 30 Pine street, New York.

The personal property of the Allis-Chalmers Company was sold at auction on February 27, at Milwaukee, for \$4,000,000, to James N. Wallace, John H. McClements and Francis S. Bangs, of New York, representing the reorganization committee. The real estate was sold on February 3, for \$2,250,000.

The Equipment Improvement Company, 30 Church street, New York, has been organized to handle Markel devices for locomotives and the Perfection door stop. The directors of the company are as follows: Alexander Turner, Bronze Metal Company, New York; R. H. Weatherly, Pilliod Company, New York; Le Grand Parish, American Arch Company, New York; F. H. Clark, Watson-Stillman Company, Ampere, N. J.; T. H. Hopkirk, American Steel Foundries, New York; T. Rumney, formerly assistant to the second vice-president of the Chicago, Rock Island & Pacific; and P. H. Ferguson, Pittsburgh Steel Products Company, Pittsburgh, Pa. The officers are as follows: President, F. H. Clark; vice-president, W. E. Weatherly; and secretary-treasurer, R. H. Weatherly. In the near future the company will handle other devices in addition to those mentioned above.

TRADE PUBLICATIONS.

PNEUMATIC TOOLS.—The Chicago Pneumatic Tool Company has issued bulletin No. 126, devoted to its compression riveters, and bulletin No. 129, devoted to hose couplings and hose clamp tools.

STEEL BUNKS.—The Hagger & Marcursen Company, Chicago, has published an illustrated folder describing its Tiger steel bunks, which were especially designed for use in logging camps in the railroad construction work.

UNIONS.—The Jefferson Union Company, Lexington, Mass., has published another of its series of folders reviewing the lives of great men in history and relating the advantages of Jefferson unions. The historical character chosen for this latest folder is Oliver Cromwell.

OXYGEN AND HYDROGEN.—The International Oxygen Company, New York, has published pamphlet No. 9 on its system of generating oxygen and hydrogen for all industrial purposes. This bulletin is illustrated and furnishes clear and concise descriptions of its oxygen and hydrogen generators and describes their operation.

THREADING MACHINERY.—The Landis Machine Company, Inc., Waynesboro, Pa., has published catalog No. 21, of its bolt threading, pipe and nipple threading, bolt pointing and nut tapping machinery, screw cutting die heads and special threading machines. This catalog is well illustrated and gives full information on the various machines. It contains 80 pages and includes a convenient index.

NORTH COAST RAILWAY, NEW SOUTH WALES.—Work on the South Grafton-Glenreagh section of the North Coast Railway is reported to be progressing satisfactorily, and clearing has been completed on the entire length. The heaviest cuts were east of the Bluff, about 18 miles from South Grafton, where sandstone was encountered. The swamp at the rear of the town was crossed partly by a viaduct about a quarter of a mile long, and partly by earthworks, the latter being now almost finished. At the Grafton end the laying of ties has commenced. Work on the principal bridge on the section, that across Sherwood creek, is now under way, while the bridge over Alipou creek has been completed, together with the approaches to Wilson's Hill, where it is proposed to span the river with a drawbridge.

Railway Construction.

CANADIAN PACIFIC.—An officer writes that contracts have been let for double-tracking work on western lines as follows: From Kemnay, Man., to Virden, 40 miles, to J. D. McArthur, Winnipeg, Man.; Whitewood, Sask., to Grenfell, Sask., 31 miles, and from Regina to Indian Head, 44 miles, to Foley Brothers, Welch & Stewart, Winnipeg; Chaplin, Sask., to Swift Current, 57 miles, to Janse Brothers, Boomer & Hughes, Calgary, Alta., and from Hammond, B. C., to Ruby Creek, 57 miles, to Grant Smith & Co., & Macdonnell, Vancouver, B. C. (February 28, p. 411.)

CAROLINA & YADKIN RIVER.—An officer writes that in addition to the line in operation from Thomasville, N. C., south to Denton, 21 miles, an extension was recently put in operation from Denton southwest to High Rock, about 9 miles. A contract has been given to C. W. Lane & Co., Atlanta, Ga., to build an extension from the northern terminus at Thomasville northeast to High Point, about 8 miles.

CHICAGO & NORTH WESTERN.—An officer writes that the Iowa Southern to be constructed by the Chicago & North Western will be a small coal road to some new coal mines that the company is opening in the vicinity of Buxton, Iowa, where the railway company is operating mines for railroad purposes only. This is not a commercial road.

GRAND TRUNK PACIFIC.—An officer writes that a contract has been given to Foley Bros., Welch & Stewart to build the remaining section of 425 miles connecting the eastern and western lines, from a point at mile 195 east of Prince Rupert, B. C., to mile 1,124 west of Winnipeg, Man. The work will be heavy. Maximum grades will be 4/10 per cent., and maximum curvature 6 deg. The work includes terminals of Fort George, B. C., a 775 ft. tunnel at mile 1,153 and a 2,000 ft. tunnel at mile 1,181. A number of bridges are to be put up between mile 1,094 and mile 1,486. See Fort George, B. C., under Railway Structures. (February 28, p. 411.)

GULF, FLORIDA & ALABAMA.—An officer writes that the company is preparing to contract for the grading of a 20-mile extension to the line running north from Local, Ala., into Monroe county. The grading is through level country. There is considerable grubbing and clearing to do. The company would like to hear from contractors who will bid on this work.

IOWA SOUTHERN.—See CHICAGO & NORTH WESTERN.

KANSAS-OKLAHOMA TRACTION.—Incorporated in Oklahoma with \$100,000 capital and headquarters at Nowata. The plans call for building from Coffeyville, Kan., south via Nowata, Okla., and Collinsville to Tulsa, about 70 miles. It is understood that the line will cost between \$30,000 and \$40,000 a mile to build. Incorporators include D. H. Siggins, Warren, Pa.; W. E. Ziegler, Coffeyville; J. E. Campbell and E. B. Lawson, of Nowata.

NEW YORK CENTRAL & HUDSON RIVER.—The report of this company for the year ended December 31, 1912, shows that four-tracking work has been carried on during the year on the Hudson division through Poughkeepsie, N. Y., between Hyde Park and Barrytown, from Storm King to Chelsea, between Tivoli and Germantown and at Stockport, and four-tracking from Spuyten Duyvil to Peekskill, and the electrification of the line from Spuyten Duyvil to Croton. Work was also carried out on the construction of a connecting line between the New York Central main line and the West Shore at Harbor, east of Utica, and has been continued on the changing of grade crossings in the city of Buffalo, which has been under way for a number of years. The preparation for electrical operation of all passenger trains to Harmon on the Hudson river is about finished, and it is expected that the entire Electric division will be put in full operation in March, 1913.

OKLAHOMA NORTHERN.—Incorporated in Oklahoma with \$50,000 capital and headquarters at Oklahoma City. The plans call for building from Vinita, Okla., northwest to Coffeyville, Kan., about 42 miles. The estimated cost of building the line is \$35,000 a mile. A. King, G. D. Meikeljohn and H. L. Steen, Omaha, Neb., and J. W. Tolliver, Centralia, Okla., are interested.

OKLAHOMA ROADS (Electric).—C. H. Kellogg and associates have asked for a franchise at Henryetta, Okla. The plans call for building a line to connect with lines to Oklahoma City. The first section to be built will be from the Creek and Victoria mines to the mines at Dewar and at Coalton. It is planned to eventually extend the line west via Okemah to a connection with the Shawnee-Oklahoma City line at Shawnee.

PENNSYLVANIA RAILROAD.—The report of this company for the year ended December 31, 1912, shows that the company has in contemplation many important and extensive improvements, including improvements at Broad street station, Philadelphia, Pa., and its approaches and facilities; improvements on the Allegheny division; elimination of grade crossings and elevation of tracks on the New York division, from Colonia, N. J., eastward, through Rahway, to Bay Way, Elizabeth, and a slight change of line in Elizabeth, where the line has already been elevated, also the abolition of additional grade crossings in Philadelphia, Lancaster, Lilly, Johnstown, Freeport, Wilkesburg, Pittsburgh and other points on its lines when the local authorities co-operate in making the eliminations. For the eastern section of the six-track system on the New York division between Colonia, N. J., and Waverly, west of Newark, additional right of way has been acquired. This work comprehends station improvements, the elimination of 15 grade crossings by the elevation of the four existing main tracks, and the construction of two additional elevated tracks between those points. Construction work is now proceeding between Colonia and Elizabeth, and should be completed in 1914. On the Bald Eagle Valley branch the grades are being revised and the line is being double tracked between Mount Eagle and the Howard Rolling Mills and passing sidings are being extended. In West Brownsville yard, Pa., the change of grade and extension of track facilities, to connect with the new double track Monongahela river bridge, are almost completed. On the Sunbury division the double tracking was further extended by constructing second tracks at Boyd and South Danville, and between Port and Honey Pot yard, Pa. Work on the New York Connecting Railroad, owned jointly by the Pennsylvania Railroad and the New York, New Haven & Hartford, is proceeding. Additional contracts have been let for foundations and masonry of Bronx viaduct; also of piers for Bronx Kills bridge, Randall's Island viaduct, Little Hell Gate bridge, and Ward's Island viaduct; for the bases and foundations of the East River bridge on Ward's Island and Long Island City; and for the Long Island viaduct; for foundation and masonry between Lawrence and Stemler streets; and for grading and masonry between its connection with the Pennsylvania Tunnel & Terminal and the Long Island Railroads at Woodside avenue and Fourteenth avenue. To provide for increasing traffic between Pittsburgh and Buffalo via the Allegheny division and the Western New York & Pennsylvania, the construction of three tunnels and the reduction of grades and other improvements on the Allegheny division between Pittsburgh and Oil City, and the reduction of grades and improvements of the railroad and yard facilities between Oil City and Buffalo, via Brocton and the Chautauqua branch, has been authorized. On the Cambria & Clearfield, the Cherry Tree & Dixonville, and the Pennsylvania, Monongahela & Southern, various short branches were built to reach coal mining operations. Work of enlarging the Mount Vernon yards, Baltimore, on the Northern Central, was completed. The freight facilities at York, Pa., Highlandtown, Md., and at Marysville yard, are also being enlarged and improved to accommodate the increased traffic. These improvements will probably be completed in 1913. The Wilkes-Barre Connecting Railroad was incorporated during the year jointly by the Pennsylvania Railroad and the Delaware & Hudson Company to provide a 7-mile line from Buttonwood yard on the Pennsylvania Railroad, west of Wilkes-Barre, to Hudson on the Delaware & Hudson Company, to facilitate the interchange of traffic between the two roads.

TEXAS ROADS.—According to press reports plans are being made to build from Knox City, Tex., east and southeast to Crystal Falls, 65 miles, and eventually east an additional 100 miles to Fort Worth. The line will traverse the northern part of Stephens county, where there are undeveloped coal fields. It is said that the towns of Knox City, Munday, Goree, Bomarton, Throckmorton and Woodson will furnish a right of way and land for stations. The estimated cost of the line is \$1,650,000. G. W. Thomason, Haskell, may be addressed.

TORONTO EASTERN.—An officer writes that a contract has been given to Ewen Mackenzie, Toronto, Ont., to build through Pickering, Whitby, Oshawa and Bowmanville. Track has been laid on one mile. The grading work involves handling about 14,000 cu. yds. of earth a mile, and about 30 per cent. is finished. Maximum grade will be 2.7 per cent., and maximum curvature 10 deg. W. H. Moore, president, and B. W. Oliver, chief engineer, Toronto. (February 21, p. 374.)

RAILWAY STRUCTURES.

CHAMBERSBURG, PA.—The Cumberland Valley has given a contract for a new passenger station at Chambersburg, to M. R. Rhoades, of Chambersburg, at \$50,000 above the foundations. The cost of the foundations is about \$16,000. The new building must be completed by October 1, 1913, and will face East Market street.

EUREKA SPRINGS, ARK.—An officer of the Missouri & North Arkansas writes that the company will build a new station at a cost of \$15,000, at Eureka Springs, and re-arrange the yard at that place at a cost of \$5,000.

FORT GEORGE, B. C.—The Grand Trunk Pacific will put up bridges between mile 1,094 and mile 1,486 as follows: At McLellan creek crossing 249 ft. long; Little Shuswap crossing 129 ft.; Rau Shuswap crossing 1,032 ft.; Cottonwood creek crossing 129 ft.; Fifty Mile river crossing 129 ft.; Goat river crossing 308 ft.; Dome creek crossing 129 ft.; Second Fraser river crossing 689 ft.; Third Fraser river crossing 968 ft.; Willow river 459 ft.; Fourth Fraser river crossing 1,227 ft.; Upper Nechaco river crossing 642 ft.; Bulkley river crossing mile 1,481, 154 ft., and crossing the same river at mile 1,486, 364 ft.

HARRISON, ARK.—The Missouri & North Arkansas will construct general shops and terminals at Harrison, at a cost of \$125,000.

HEBER SPRINGS, ARK.—The Missouri & North Arkansas will construct yard terminals and a roundhouse at Heber Springs, at a cost of \$25,000.

HELENA, ARK.—The Missouri & North Arkansas will put up a new station and construct a yard at Helena, at a cost of \$50,000.

LESLIE, ARK.—The Missouri & North Arkansas will put up a new station at Leslie at a cost of \$7,500, and will also fill in a number of bridges at various places on the line at a cost of \$30,000.

MCADAM JUNCTION, NEW BRUNSWICK.—Bids are wanted by William Downie, general superintendent of the Canadian Pacific at St. John, New Brunswick, until noon, March 10, for the erection of a concrete machine shop, at McAdam Junction.

MOLINE, ILL.—The Chicago, Rock Island & Pacific has announced plans for the erection of a new two-story passenger station.

MT. CLEMENS, MICH.—The Grand Trunk has announced that it will erect a new passenger station during the year to cost approximately \$25,000.

NEW LONDON, CONN.—See an item in General News regarding a new four-track steel bridge, to be built over the Thames river at New London, for the New York, New Haven & Hartford.

NEW YORK.—The report of the New York Central & Hudson River for the year ended December 31, 1912, shows that the entire work of reconstruction of the Grand Central Terminal at New York has progressed without interruption of train service. The concourse and waiting room on the express level of the main station building were opened for use on February 2, 1913. The suburban concourse was opened for partial use on October 27, 1912. Changes in the plans have delayed completion of the cross streets, and an extension of time was obtained. The whole of this work is expected to be finished during 1913. The more important work carried on during the year included improvements at Utica consisting of a new brick and stone passenger station, elimination of grade crossing at Genesee street, a new engine terminal, and increase of terminal yard tracks. Improvements at Rochester included a new stone passenger station, extension and

reconstruction of several bridges, the closing of Joiner street, placing additional tracks, the building of a new power house and the erection of several auxiliary buildings. In connection with the four-tracking of the Hudson division new passenger stations were put up at Staatsburgh and at Rhinecliff. The work in connection with the four-tracking from Spuyten Duyvil to Peekskill and the electrification from Spuyten Duyvil to Croton includes changes of bridges, stations and signals, and the development of a new terminal of the Electric division at Harmon, also improvements at Yonkers consisting of the elevation of tracks and the construction of additional main tracks, a new passenger station, a new freight station, and a new freight yard layout, and a new passenger station at Glenwood.

OGDEN, UTAH.—The Oregon Short Line is said to be planning the erection of a large addition to its shops.

PHILADELPHIA, PA.—The report of the Pennsylvania Railroad for the year ended December 31, 1912, shows that the improvement of the passenger facilities in Philadelphia, Pa., is still receiving consideration, and will necessitate an increase in the tracks and platforms, and the enlargement and improvement of the station facilities at Broad street station and approaches as far as West Philadelphia station and yard; the widening of the bridge, and approaches, over the Schuylkill river and the adjoining entrances to Fairmount Park at Girard avenue, by the construction of two additional tracks; enlargement of North Philadelphia passenger station and approaches by the addition of four new tracks with high level island platforms, and other improvements, including the relocation of the junction of the Chestnut Hill branch with the New York division at that point, which is now under contract. An ordinance was obtained from the city of Philadelphia to erect a new eight-track concrete steel bridge across North Broad street near North Philadelphia station. Extensive repairs and additions are being made to the West Philadelphia stock yards, and the piers at Greenwich, Philadelphia, are being improved, and the dock extended. The company bought property during the year for passenger terminal and station improvements at Broad street station, and other points in Philadelphia, and for the enlargement and improvement of freight stations and yard facilities, at Hamburg Junction and Greenwich in Philadelphia, Elizabethtown, Altoona, Cresson, Uniontown, Tarentum, Peterson and New Kensington. The company also has in contemplation the construction of a new double-track steel bridge over the Allegheny river at Kiskiminetas Junction to take the place of the present single-track bridge. Work on the Cortlandt street ferry house and dock, New York, which are being rebuilt, will be completed in 1913. On the Newark Rapid Transit Line, the Summit avenue passenger station, Jersey City, has been finished. The Fourth street station in Harrison, N. J., on this line, will be completed early in 1913. On the Pittsburgh division four grade crossings are being abolished in Braddock, Pa., by the construction of three under-grade bridges and one overhead bridge; work is in progress on the elimination of grade crossings in Pittsburgh at Homewood avenue, and the work of eliminating all grade crossings in the borough of Wilkesburg has commenced. At Montgomery, Pa., the 16-span double track steel bridge over the West branch of the Susquehanna river, replacing the single track bridge, will be completed this year. A fireproof grain elevator of enlarged capacity is being erected by the Girard Point Storage Company at Girard Point, Philadelphia, to replace the present elevator. On the Philadelphia, Baltimore & Washington, the work of reconstructing the bridges over the Gunpowder and Bush rivers will be finished during 1913. The reconstruction of the bridges over Stemmers run, Back river and Gwynn's Falls will also be undertaken in the present year.

SAN BENITO, TEX.—The St. Louis, Brownsville & Mexico and the San Benito & Rio Grande Valley have prepared plans for a new passenger station.

SLATON, TEX.—The Gulf, Colorado & Santa Fe is planning to enlarge the capacity of its roundhouse and to erect a new passenger station.

TORONTO, ONT.—Bids are wanted by B. Ripley, engineer of grade separation of the Canadian Pacific, Toronto, Ont., up to noon, March 20, for the construction of the sub-structures of subways at Davenport road, at Spadina road, at Holland avenue, and at Bathurst street, North Toronto.

Railway Financial News.

BALTIMORE & OHIO.—The Public Service Commission has conditionally approved the new \$63,250,000 4½ per cent. convertible bond issue in order to allow stockholders to take advantage of their right to subscribe therefor on or before March 3. The order is not to become effective until the Maryland Court of Appeals has passed on the legal question involved.

BOSTON & ALBANY.—This company has asked the Massachusetts railroad commission for permission to issue \$2,015,000 25-year 4½ per cent. bonds for improvements.

GALVESTON, HOUSTON & HENDERSON.—C. E. Schaff, president of the Missouri, Kansas & Texas, has been elected a director, succeeding Roger Campbell, resigned.

Speyer & Company, of New York, recently bought \$2,000,000 new first mortgage 5 per cent. bonds which they are offering to exchange for a like amount of bonds falling due April 1, 1913; holders of old bonds receiving \$10 cash in addition to a new bond for each \$1,000 bond presented by March 24.

CHICAGO & ALTON.—The 3-year \$2,500,000 notes which mature March 15 are to be paid from cash to be obtained from the sale of a block of new general mortgage bonds.

MISSOURI, KANSAS & TEXAS.—The Texas senate has passed by a vote of 22 to 6 (over Governor Colquitt's veto) a bill to permit the consolidation of the Wichita Falls & Northwestern, the Wichita Falls & Southern, the Texas Central and the Beaumont & Great Northern with the Missouri, Kansas & Texas of Texas. The house had already passed the bill over the Governor's veto.

NEW YORK CENTRAL & HUDSON RIVER.—The New York Public Service Commission, Second district, has granted the application of this company for permission to merge all of the subsidiaries of which the New York Central & Hudson River owns all of the stock. The commission has received an application for permission to consolidate a large number of other subsidiaries in which the New York Central owns directly or indirectly a large majority of the stock. Neither of these applications includes the New York & Harlem.

NEW YORK, NEW HAVEN & HARTFORD.—The directors have authorized President Mellen to make a lease of the Northampton division, north of Westfield, to the Boston & Albany. In all there are 66 miles of road which it is proposed to lease, reaching Holyoke, Easthampton, Northampton, Turners Falls and Shelburne Falls.

NEW YORK, ONTARIO & WESTERN.—Ladenburg, Thalmann & Company, New York, have bought from the company \$1,980,000 general mortgage 4 per cent. bonds.

SALT LAKE & MERCUR.—The circuit court has appointed Lucius Laudie receiver. The road runs from Salt Lake City to Mercur, Utah, 62 miles.

RAIL CONNECTIONS BETWEEN VALENCIA AND MADRID, SPAIN.—The much talked of direct line from Valencia, Spain, to Madrid has not been included in the new law authorizing "complimentary" railways in Spain. The law only makes reference to the proposed line filling up the gap between the termini of existing lines at Cuenca and Utiel, and the Valencia people are not satisfied with this route, which is circuitous. On the other hand only 89 miles of line have to be built to connect these two termini, while of the proposed direct line via Motilla nothing is completed but the section from Valencia to Utiel. Valencia is the only large coast town which is not placed on one of the many direct lines which radiate from Madrid to the coast, although it is nearer than any other. As the crow flies the distance between the two cities is only some 186 miles, but the present route, via Encino, is 304 miles long, and the tri-weekly express takes 10½ hours to do the journey. By the Cuenca-Utiel route the distance would be reduced to 250 miles and considerably less again, via Motilla. Unfortunately, the latter route is through difficult country, and there is little hope of any local traffic of value, at least for a number of years to come, while the through passenger traffic is hardly sufficient to justify the present service of one daily mail train each way and an express every alternate week-day.

ANNUAL REPORTS.

THE PENNSYLVANIA RAILROAD—SIXTY-SIXTH ANNUAL REPORT.

GENERAL OFFICE, BROAD STREET STATION, PHILADELPHIA,

February 28th, 1913.

The Board of Directors submit herewith to the Stockholders of The Pennsylvania Railroad Company a synopsis of their Annual Report for the year 1912:

| | |
|---|------------------|
| Rail operations—Revenues | \$174,607,598.22 |
| Rail operations—Expenses | 126,637,944.59 |
| Net revenue—Rail operations | \$47,969,653.63 |
| Auxiliary operations—deficit | 1,147,985.23 |
| Net Railway operating revenue | \$46,821,668.40 |
| Railway tax accruals | 7,128,535.02 |
| Railway operating income | \$39,693,133.38 |
| Other income: | |
| Income from securities | \$14,527,491.56 |
| Hire of equipment, etc. | 4,762,241.75 |
| Gross income | \$58,982,866.69 |
| Deductions from gross income | 16,828,902.66 |
| Net income | \$42,153,964.03 |
| Disposition of net income: | |
| Appropriations to sinking and other reserve funds | \$1,138,627.92 |
| Portion of principal of equipment trust obligations | 2,901,727.99 |
| Cash dividends | 27,198,918.00 |
| Appropriations for Additions and Betterments | 8,365,479.53 |
| Construction expenditures on branch roads | 888,107.06 |
| Balance transferred to credit of Profit and Loss | \$1,661,103.53 |

CONDENSED GENERAL BALANCE SHEET.

DECEMBER 31st, 1912.

| | |
|--|------------------|
| ASSETS. | |
| Property investment: | |
| Road | \$282,948,637.64 |
| Equipment | 154,130,678.53 |
| Reserve for accrued depreciation—Cr.... | \$437,079,316.17 |
| | 14,086,588.29 |
| Securities owned | \$422,992,727.88 |
| Securities under lease of U. N. J. R. R. & C. Co. | 331,909,154.32 |
| Miscellaneous investments | 2,559,658.25 |
| Cash | 1,929,509.60 |
| Materials and supplies | 30,207,397.25 |
| Cash and securities in sinking, insurance and other reserve funds | 15,434,219.43 |
| Cash and securities in Provident Funds | 34,686,149.81 |
| Other assets | 6,616,863.23 |
| | 39,843,342.50 |
| | \$886,179,022.27 |
| LIABILITIES. | |
| Capital Stock | \$453,877,950.00 |
| Premium realized on Capital Stock from January 1st, 1909 | 7,050,200.00 |
| Funded Debt of The Pennsylvania Railroad Company | 152,468,940.00 |
| Funded Debt of Companies whose properties have been acquired by The Pennsylvania Railroad Company | 54,334,500.00 |
| Guaranteed Stock Trust Certificates, Philadelphia, Wilmington and Baltimore Railroad and New York, Philadelphia and Norfolk Railroad Companies | 14,708,250.00 |
| Equipment Trust Obligations | 21,888,827.71 |
| Mortgages and Ground Rents Payable | 3,456,622.36 |
| Securities received with the lease of the U. N. J. R. R. & C. Co. | 2,559,658.25 |
| Liability on account of Provident Funds | 6,616,863.23 |
| Other Liabilities | 44,049,668.57 |
| Additions to property since June 30th, 1907, through income Reserves from Income or Surplus: | 52,439,756.37 |
| Invested in Sinking, Redemption and other reserve funds | 35,745,431.46 |
| Reserve for Additions and Betterments and Car Trust Principal charged out in advance | 8,447,378.70 |
| Profit and Loss | 28,534,975.62 |
| | \$886,179,022.27 |

The number of tons of freight moved on the five general divisions east of Pittsburgh and Erie in 1912 was 143,480,431, an increase of 18,305,363, or 14.62 per cent.; the number of passengers was 72,452,887, an increase of 5,007,173, or 7.42 per cent.

The Railroad Companies east of Pittsburgh and Erie in which your Company is interested show satisfactory results. Detailed statements of their operations will be found in their respective annual reports, as well as in the full report of your Company.

The number of tons of freight moved on the lines west of Pittsburgh was 165,449,782, an increase of 26,672,392. The number of passengers carried was 34,326,381, a decrease of 335,069.

The operating revenue of all lines east and west of Pittsburgh for the year 1912 was \$374,096,179.92; operating expenses, \$291,867,378.81, and operating income, \$82,228,801.11, an increase in operating revenue, compared with 1911, of \$37,612,367.16, and an increase in operating income of \$7,039,773.63. There were 473,174,093 tons of freight moved on the entire system, being an increase of 59,955,772 tons, and 178,811,733 passengers carried, an increase of 9,816,577.

There were expended during the past year for construction, equipment, and real estate on the Lines West of Pittsburgh \$16,236,642.13.

The expenditures were principally for new ore docks at Cleveland, the elevation of tracks in that city, and also in Chicago and Fort Wayne, the construction of additional main tracks on the Pittsburgh, Fort Wayne and

Chicago Railway, the Cleveland and Pittsburgh Railroad and the Pittsburgh, Cincinnati, Chicago and St. Louis Railway, land for new freight station at Indianapolis, increase in yard and station facilities at various points, and for additions to and improvement of the equipment.

GENERAL REMARKS.

The Income Statement is in the form prescribed by the Interstate Commerce Commission, effective July 1st, 1912, which requires the statement of certain parts of the Income Statement in greater detail; as well as showing the receipts and disbursements of certain accounts. The company is further required to include the Income derived by Sinking and other Reserve Funds as part of its Income; but as it is not permitted to charge as a payment interest on any part of its bonds which may be held in any of the Sinking or Trust Funds, such interest on bonds so held cannot be included in said Income. While these accounting changes result, therefore, in apparently swelling the Net Income of the Company to the extent of \$786,230.60 yet it is offset by corresponding necessary appropriations to these funds out of net income, which appropriations were formerly included in fixed charges.

This Statement shows that the total Rail Operating Revenues were \$174,607,598.22, the largest in the history of the Company, an increase of \$17,120,185.52, or 10.87% as compared with 1911.

The increased express traffic resulted in a greater gross return to the Company. The future effect of the parcel post on express revenue cannot as yet be determined, nor is it known what effect the change in express rates, ordered by the Interstate Commerce Commission, will have upon the revenue received from the Express Company operating over your lines.

In the transportation of United States Mails the revenues show a decrease although the volume of the traffic increased. The rates are fixed by Congress, and there is a Congressional investigation of the subject at the present time. It is hoped that, after due consideration is given to the value of this service and to the special facilities it requires, remunerative rates will be paid.

Rail Operating Expenses are also the largest in the history of the Company, showing an increase of \$13,409,551.56, or 11.84%, caused principally by the increased traffic, which necessitated not only greater outlays for transportation expenses, but also for repairs and renewals of roadbed, bridges, and buildings, signals and interlocking and for other items which add to the safety and comfort of the patrons and employees of the road; as well as for repairs and renewals of equipment, and increased charges for Depreciation.

The expenses were further increased by the severe weather in January and February, 1912, and they also reflect increases caused by higher wages; the operation of the Extra Train Crew Law; increased cost of fuel and other materials, and improved standards of track and other construction to meet the requirements of heavier rolling stock.

In the wage questions that arose during the past year with the Enginemen and Firemen on the railroads in the Eastern District of the United States, represented by their respective Brotherhoods, a general strike was averted in the case of the Enginemen by the appointment of a special Board of Arbitration, consisting of seven members, one selected by the railroad companies, one by the Brotherhood of Locomotive Engineers, and the other five appointed by the Chief Justice of the Supreme Court of the United States, the Presiding Judge of the Commerce Court and the United States Commissioner of Labor, collectively.

This Arbitration Board was constituted after attempts had failed to settle the difficulty through mediation under the Erdman Act, and because the parties in the controversy, while agreeing to the principle of arbitration, would not accept arbitration under the provisions of that Act.

In the difficulties of the present year with the Firemen, represented by the Brotherhood of Locomotive Firemen, a strike was averted by the railroad companies agreeing to submit to arbitration under the provisions of the Erdman Act, which they did not believe to be satisfactory, but accepted rather than impose on the Country, the railroads and the employees the lamentable consequences of a general strike, involving over fifty railroads, having over 25% of the mileage and nearly 40% of the total Operating Revenues and Operating Expenses of all the railroads in the United States.

Considering the magnitude of the interests in this Country and those Countries with which it has commercial relations that would be affected by the interruption of railroad traffic, and the serious results that would ensue therefrom; the stoppage of food supplies, fuel and other traffic, the inconvenience, losses and suffering to the general public whose interest is paramount, and to the workers in other industries dependent on a reliable transportation service and in no way responsible for railway disputes, and the failure of strikes to produce any permanent advantages to either the employees and their families or to the transportation companies, careful consideration should be given to the recommendations for the amendment of the Erdman Act, which have been made from so many sources interested in the well-being of the Country.

The experience arising from these larger wage controversies places a serious responsibility upon those whose duty it is to enact proper legislation governing the relations between employer and employee, to consider whether the Erdman Act should not be amended to increase the number of arbitrators and thereby constitute a Board of sufficient size to properly represent the public as well as the parties to the controversy, and to direct the necessary far-reaching investigations and fully share the responsibility of an impartial determination of the equitable and economic questions arising from such disputes. It will also be found necessary to provide a longer time than thirty days specified in the Act for the consideration of the subject and the rendering of a decision.

It may not be possible to prevent strikes or lockouts by requiring compulsory arbitration, but it is wise to consider whether an obligation should not be placed upon the employer and employee to advise the authorities of the questions at issue before any lockouts or strikes can become effective, so that by due publication and inquiry the Government and the public may be fully informed of the extent of the controversy and its causes.

The net revenue of rail operations shows an increase of \$3,710,633.96. Taxes continue to increase, the charges for the present year exceeding those of the previous year by \$332,649.28.

The tonnage for the year increased 14.52% and tonnage mileage increased 13.35%, while the freight train mileage increased only 10.95% due to an increased train load of 2.17%.

The passengers carried increased 7.42% with increased passenger mileage of 6.71%, while in the face of this, the passenger train mileage increased only 1.88% due to the average number of passengers per train increasing 4.84%.

In the deductions for lease of other roads the larger payments are due to the increased revenue earned on Roads operated on the basis of Net revenue.

The decrease in the interest deductions for funded debt, compared with

1911, was due to the maturity and payment on May 1st, 1912, of the River Front Railroad Company First Mortgage Bonds; and on November 1st, 1912, of the Pennsylvania Railroad Company 3½% Convertible Bonds of 1902, and also to the payments of principal due on Equipment Trust Obligations.

The Company has in contemplation many important and extensive necessary improvements, a large portion of which should not be charged to Capital Account, and for which the Reserve for Additions and Betterments will be utilized, such as the improvements of Broad Street Station, Philadelphia, and its approaches and facilities; improvements on the Allegheny Division hereinafter referred to; the elimination of grade crossings and elevation of tracks on the New York Division, from Colonia eastward, through the City of Rahway, to Bay Way, Elizabeth, and a slight change of line in the City of Elizabeth, where the line has already been elevated. It also contemplates the abolition of additional grade crossings in Philadelphia, Lancaster, Lilly, Johnstown, Freeport, Wilkesburg, Pittsburgh, and other points on its lines when the local authorities co-operate in making the eliminations. The Company also has in contemplation the construction of a new double-track steel bridge over the Allegheny River at Kiskiminetas Junction on an improved line to take the place of the present single-track bridge.

The Capital Stock was increased over the previous year by \$100.00, of which \$50.00 was issued in exchange for Fractional Convertible Bond Receipts, and \$50 for Dividend Scrip dated May 31, 1893.

The Funded Debt and Equipment Trust obligations were reduced as follows:

Redemption through Sinking Funds:

| | |
|---|-------------|
| Consolidated Mortgage 3½% Bonds due July 1, 1945..... | \$66,930.00 |
| Equipment Trust Loan due 1914..... | 121,000.00 |
| Collateral Trust Loan Bonds 4½% due June 1, 1913..... | 51,000.00 |
| Philadelphia, Wilmington and Baltimore Railroad 4% Stock Trust Certificates due July 1, 1921..... | 114,000.00 |

Payment at Maturity of:

| | |
|--|---------------|
| Ten Year Gold Convertible 3½% Bonds..... | 10,222,500.00 |
| River Front Railroad Company's 1st Mortgage 4½% Bonds..... | 212,000.00 |
| Equipment Trust obligations..... | 6,441,100.07 |

It will shortly be necessary for the Company to provide capital for the \$10,222,500 of Ten Year Gold Convertible 3½% Bonds which matured November 1st, 1912, and for \$9,735,000.00 of Collateral Trust Loan 4½% Bonds due June 1st, 1913, together with maturing equipment trust obligations, and also for new construction work, the extension and improvement of terminals, track and facilities, and the purchase of equipment. The matter is now receiving careful consideration, but no decision has yet been reached as to the form or extent of the proposed financing.

The issues of Equipment Trust Securities during the year consisted of \$7,000,000.00 of Pennsylvania General Freight Equipment Trust Certificates of 1912, of which the Pennsylvania Railroad Company's proportion was \$1,572,100.00. There were thus furnished for the Pennsylvania Railroad Company 875 steel underframe and steel body-frame refrigerator cars; for the Pennsylvania Company, 1,000 steel underframe and steel body-frame automobile box cars; for the Pittsburgh, Cincinnati, Chicago and St. Louis Railway Company, 3,000 all steel coke gondola cars; and for the New York, Philadelphia and Norfolk Railroad Company 800 steel underframe ventilated box cars and 50 steel underframe gondola cars, an aggregate of 5,725 cars.

During the year the final payments were made under 19 series of equipment trusts, the original issue of which amounted to \$19,000,000. These series covered 3,325 steel underframe box cars, 3,000 steel hopper gondola cars, 6,000 steel underframe long gondola cars, in service on the Pennsylvania Railroad; 500 refrigerator cars, 1,500 steel hopper gondola cars, 600 steel underframe long gondola cars, 500 steel flat cars, sub-leased to the Pennsylvania Company; 210 steel underframe box cars, 300 steel hopper gondola cars, 400 steel underframe long gondola cars, sub-leased to the Pittsburgh, Cincinnati, Chicago and St. Louis Railway Company; 200 steel hopper gondola cars, sub-leased to the Cleveland, Akron and Cincinnati Railway Company; and 85 refrigerator cars sub-leased to the Grand Rapids and Indiana Railway Company, representing in all 16,620 cars.

The cars therefore have become the property of the respective companies which paid the cost thereof.

The expenditures for acquisition of property during the year were mainly to cover additional right of way for new lines, elimination of grade crossings, and for passenger terminal and station improvements at Broad Street Station, and other points in Philadelphia, and for the enlargement and improvement of freight stations and yard facilities at Hamburg Junction and Greenwich in Philadelphia, Elizabethtown, Altoona, Cresson, Uniontown, Tarentum, Peterson and New Kensington.

The block signal system on the main line between New York and Pittsburgh was further improved by the installation of automatic signals on the Philadelphia Division between Dillerville Block Station and Branch Intersection, and on the Pittsburgh Division between Summerhill and Latrobe, and the work will be continued next year on the Middle and Philadelphia Divisions.

The Cortlandt Street Ferry House and Dock, New York City, which are being rebuilt, have so far progressed that the two ferry slips are now in operation, and the remainder of the work will be completed in 1913.

On the Newark Rapid Transit Line, described in the Annual Report for 1910, the Summit Avenue passenger station, Jersey City, was partially completed and opened on May 30th, 1912, and has since been finished, and is accommodating a large amount of traffic. The Fourth Street Station in Harrison, N. J., on this line, will be completed early in 1913.

For the eastern section of the six-track system on the New York Division between Colonia, N. J., and Waverly, west of Newark, N. J., additional right of way has been acquired. This work comprehends station improvements, the elimination of fifteen grade crossings by the elevation of the four existing main tracks, and also the construction of two additional elevated tracks between those points. Construction work is now proceeding between Colonia and Elizabeth, and should be completed in 1914.

The State of New Jersey, in which your Company and other lines have extensive mileage, is now considering the enactment of new legislation for the elimination of grade crossings. It has long been the policy of the Company to encourage the removal of grade crossings, and it has spent large sums of money for that purpose, but still greater results in this direction would have been attained had the States and municipalities been authorized, or willing, to co-operate in the outlay. The railroads in many instances have been the pioneers in the development of the towns, cities and territories served by them, and their existence has materially added to the population and prosperity of these communities. But with so many crossings still to be eliminated, the greatly increased payments for taxes and other items, and outlays for improvements in their railroads and equipment, which still confront them and are essential to public safety and convenience, it seems unfair and unwise to propose that the railroad companies should be burdened with either the entire cost, or an undue proportion of the cost, of eliminating grade crossings, many of which have been opened subsequently to the construction of the railroads, and against their strong protest. For these reasons and on account of the great increase

of motor, street railway, vehicular and pedestrian travel, it is hoped that the legislation now pending will be so framed in the public interest, as to enable either the State, the municipalities or the railroads to take the initiative in the abolition of existing crossings, and to co-operate in carrying on the work by providing a fair and equitable division of the expenditure, as do the laws of New York, Massachusetts, Vermont, Ohio and other States.

The improvement of the passenger facilities in Philadelphia is still receiving consideration by the various departments in the service, and also by the Consulting Electrical Engineers of the Company. As outlined in the last annual report, it will necessitate (1) an increase in the tracks and platforms, and the enlargement and improvement of the station facilities at Broad Street Station and its approaches as far as West Philadelphia Station and Yard; (2) the widening of the bridge, and its approaches, over the Schuylkill River and the adjoining entrances to Fairmount Park at Girard Avenue, by the construction of two additional tracks and a revision of the signals and interlocking, which is now proceeding, and (3) the enlargement of North Philadelphia passenger station and its approaches by the addition of four new tracks with high level island platforms, and other improvements including the relocation of the junction of the Chestnut Hill Branch with the New York division at that point, which is now under contract.

In brief the Philadelphia Terminal problem is to provide increased terminal facilities and approaches for approximately 20 years, for lines which equal eight double-track railroads.

An Ordinance was obtained from the City of Philadelphia to erect a new eight-track concrete steel bridge across North Broad Street near North Philadelphia Station.

Pending the results of the investigation of terminal improvements for Broad Street Station, Philadelphia, satisfactory progress is being made in the acquisition of the necessary real estate.

Extensive repairs and additions are being made to the West Philadelphia stock yards of the Company, and the piers at Greenwich, Philadelphia, are being improved, and the dock extended, to facilitate the loading of coal at that point.

On the Bald Eagle Valley Branch the grades are being revised and the line is being double-tracked between Mount Eagle and the Howard Rolling Mills and passing sidings are being extended, to provide for the increased tonnage passing between the Main Line and the Erie Division via Tyrone and Lock Haven.

On the Pittsburgh Division four grade crossings are being abolished in Braddock, Pa., by the construction of three under-grade bridges and one over-head bridge; work is in progress on the elimination of grade crossings in the City of Pittsburgh at Homewood Avenue, and the work of eliminating all grade crossings in the Borough of Wilkesburg has commenced.

In West Brownsville Yard, Pa., the change of grade and extension of track facilities, necessary to connect with the new double track Monongahela River bridge, at that point are almost completed.

On the Sunbury Division the double tracking was further extended during the year by constructing second tracks at Boyd and South Danville, and between Port and Honey Pot Yard, Pa.

At Montgomery, Pa., the sixteen span double track steel bridge over the West Branch of the Susquehanna River, replacing the single track bridge at that point, will be completed this year.

The aggregate expenditures for Construction and Equipment during the year upon the owned and leased lines of this Company was \$16,322,247.38 for which the Company has been reimbursed by leased lines to the extent of \$727,502.41. The sum of \$888,107.06 was expended on the Western New York and Pennsylvania Railway, Cambria and Clearfield Railway, and other Branch Roads, and charged against Income as Expenditures on Branch Roads for Construction. The expenditures on the line owned and on the Harrisburg, Portsmouth, Mt. Joy and Lancaster Railroad and the United New Jersey Railroad and Canal Company, operated under long-term leases, comprising the main line system between New York and Pittsburgh, amounted to \$14,706,637.91, which has been disposed of as follows:

| | |
|---|-----------------|
| Charged to Income as Extraordinary Expenditures..... | \$1,841,127.72 |
| Charged to Reserve for additions and Betterments appropriated out of Income of previous year..... | 3,652,567.37 |
| | \$5,493,695.09 |
| Charged to Capital Account: | |
| Road..... | \$3,602,489.93 |
| Equipment..... | 5,610,452.89 |
| | 9,212,942.82 |
| | \$14,706,637.91 |

Under the Balance Sheet prescribed by the Interstate Commerce Commission, the Road and Equipment Account includes not only these capital charges, but also similar expenditures made out of Income since June 30th, 1907. Therefore, the expenditures charged against Income and against the Reserve for Additions and Betterments, created in previous year have been so included.

The Additions and Betterments expenditures on the Harrisburg, Portsmouth, Mt. Joy and Lancaster Railroad and the lines of the United New Jersey Railroad and Canal Company, both operated by this Company under leases for 999 years have also been included under the Road and Equipment Account as "Leased Lines—Road."

| | |
|---|-----------------|
| Expenditures during 1912..... | \$1,979,160.61 |
| Expenditures June 30th, 1907, to December 31st, 1911..... | 9,940,950.10 |
| | \$11,920,110.71 |

An offsetting liability appears on the credit side of the Balance Sheet, entitled "Additions to Property since June 30th, 1907, through Income," in which is carried not only the \$5,493,695.09, but also the payments through Income on account of Car Trust Certificates amounting to \$2,901,727.99 for 1912, and \$637,644.08 for previous years, aggregating \$9,033,067.16.

On account of principal and interest of Water Supply Trust Certificates \$524,351.81 were expended during the year and charged against Income.

The construction of the New York Connecting Railroad, owned jointly by this Company and the New York, New Haven and Hartford Railroad Company, as described in the report of last year, is proceeding. Additional contracts have been awarded for foundations and masonry of Bronx Viaduct; foundations and masonry of Piers for Bronx Kills Bridge, Randall's Island Viaduct, Little Hell Gate Bridge, and Wards Island Viaduct; for the bases and foundations of the East River Bridge on Wards Island and Long Island City; and for the Long Island Viaduct; for foundation and masonry between Lawrence and Stetler Streets; and for grading and masonry between its connection with the Pennsylvania Tunnel and Terminal and the Long Island Railroads at Woodside Avenue and Fourteenth Avenue.

The increasing traffic between Pittsburgh and Buffalo via the Allegheny Division and the Western New York and Pennsylvania Railway requires the construction of three tunnels and the reduction of grades and other improvements on the Allegheny Division between Pittsburgh and Oil City,

and the reduction of grades and improvements of the railroad and yard facilities on the said railway between Oil City and Buffalo, via Brocton and the Chautauqua Branch, to more fully utilize it as the principal route for passenger and freight traffic between these cities, and the work has been authorized. As the result of these improvements, the heavy grades will be restricted to relatively short distances between the said cities, and this route, which was objectionable because of heavy grades, will be over 58 miles shorter than the present route via Oil City, the Salamanca Branch, and Olean, and will have not only this advantage in distance, which will produce satisfactory operating economies, but its use will postpone for several years the double tracking and other expenditures on the present route.

To meet the Construction and Equipment expenditures on the Western New York and Pennsylvania Railway during the year, advances aggregating \$525,212.36 were made by this Company, and charged against the net income of the Lessee Company. This Company will also be required to provide funds for the improvements heretofore mentioned on that railway during the year 1913.

On the Cambria and Clearfield Railway, the Cherry Tree and Dixonville Railroad, and the Pennsylvania, Monongahela and Southern Railroad, various short branches were built to reach coal mining operations.

This Company advanced \$184,591.36 to the Cambria and Clearfield Railway Company to meet its construction expenditures, which was charged against the net income of the Lessee Company.

It has been deemed advisable to absorb the Cambria and Clearfield Railway Company, which for many years has been owned and operated by this Company in connection with its main line, the construction of that road and its several constituents having been promoted by this Company for the development of the bituminous coal traffic in the Clearfield region. The necessity for maintaining that Company as a separate corporation no longer exists, and the agreement providing for its acquisition will, in accordance with notice given to the stockholders, be submitted for approval at the annual meeting.

The sum of \$94,408.94 was advanced to the Pennsylvania, Monongahela and Southern Railroad Company to meet its construction expenditures for 1912, for which it reimbursed this Company by the issuance of its stock and bonds in equal portions.

A fireproof grain elevator of enlarged capacity and modern facilities is being erected by the Girard Point Storage Company at Girard Point, Philadelphia, to take the place of the present elevator.

On the Philadelphia, Baltimore and Washington Railroad, the work of reconstructing the bridges over the Gunpowder and Bush Rivers is proceeding, and will be finished during 1913. The reconstruction of the bridges over Stemmers Run, Back River and Gwynn's Falls will also be undertaken in the present year.

The installation of automatic block signals on the Maryland Division has been completed between Washington and Baltimore, between Principio and Iron Hill, and between Ruthby and Wilmington, and the work will be continued next year.

On the Northern Central Railway the work of enlarging the Mount Vernon Yards, Baltimore, was entirely completed. The freight facilities at York, Pa., Highlandtown, Md., and at Marysville Yard, are also being enlarged and improved to accommodate the increased traffic. These improvements will probably be completed in 1913.

The execution and delivery of the proposed lease by this Company of the railroad, property and franchises of the Northern Central Railway Com-

pany, is still delayed by litigation. Under its provisions, which have been fully explained in the Annual Report for 1910, the lease and rental payments became effective January 1st, 1911, and an accounting between the lessor and lessee from that date will be necessary if and when the lease has been duly executed and delivered in conformity with its terms and conditions.

The Wilkes-Barre Connecting Railroad Company was incorporated during the year jointly by this Company and the Delaware and Hudson Company to provide a line, seven miles in length, from Buttonwood Yard on the Pennsylvania Railroad, west of the City of Wilkes-Barre, to Hudson on the line of the Delaware and Hudson Company, to facilitate the interchange of traffic between the two roads, and avoid its movement through the business centre of that city, and via the tracks of other railroads.

The surplus property fronting on Seventh Avenue between Thirty-second and Thirty-third Streets, New York City, owned by the Pennsylvania Tunnel and Terminal Railroad Company, a subsidiary of this Company, has been conveyed to the Pennsylvania Terminal Real Estate Company looking to its future development.

During the year the Company made advances to the Long Island Railroad Company aggregating \$2,625,000, for the improvement of its railroad and facilities, and the construction of new lines and equipment, and will receive therefor securities of that Company.

Minor advances were also made to the Pennsylvania Tunnel and Terminal Railroad Company in 1912, for which its certificate of indebtedness to this Company has been issued.

The pensions paid during the year amounted to \$646,375.34.

The stockholders will be asked to authorize an increase in the annual sum set apart for pension purposes from \$700,000 to \$750,000 per annum and to give authority to the Board of Directors to hereafter increase the pension appropriation to such extent as may, from time to time, be necessary to meet the purposes for which the Pension Department was created; such increase to be reported to the stockholders.

The additional appropriation is necessitated by the increasing number of pensioned employees, especially between the ages of 65 and 69 years; and the advances in wages from time to time, which increase the average pension allowances.

The securities held by the Company, December 31st, 1912, at a valuation of \$331,909,154.32, produced a direct income during the year of \$14,527,491.56. During the year the Company increased its holdings of Norfolk and Western Railway Company Common stock, by \$4,788,100.00 through the conversion of a like amount of Norfolk and Western Railway Company Convertible bonds, to which it had subscribed at par, during the year, and also acquired \$3,000,000 of Pennsylvania Terminal Real Estate Company stock.

Effective May 8th, 1912, the name of the Buffalo and Allegheny Valley Division was changed to Northern Division.

By order of the Board,

SAMUEL REA,
President.

STOCKHOLDERS MAY OBTAIN COPIES OF THE ANNUAL REPORT COMPLETE, BY APPLYING TO OR ADDRESSING
LEWIS NEILSON, SECRETARY,
BROAD STREET STATION, PHILADELPHIA, PA.

FORTY-FOURTH ANNUAL REPORT OF THE NEW YORK CENTRAL AND HUDSON RIVER RAILROAD COMPANY.

To the Stockholders of

THE NEW YORK CENTRAL AND HUDSON RIVER RAILROAD COMPANY:

The Board of Directors herewith submits its report for the year ended December 31, 1912, with statements showing the results for the year and the financial condition of the company.

The mileage embraced in the operation of the road is as follows:

| | Miles |
|------------------------------------|----------|
| Main line and branches owned..... | 805.49 |
| Proprietary lines | 3.06 |
| Lines leased* | 2,626.13 |
| Lines operated under contract..... | 81.70 |
| Trackage rights | 274.27 |
| Total road operated..... | 3,790.65 |

*The Dunkirk Allegheny Valley and Pittsburgh Railroad, 90.51 miles, is also leased by this company, but its mileage and operations are not included in this report. Separate accounts are kept and independent returns prepared in its behalf.

Of the total road operated, 290.71 miles are operated in freight service only and 14.96 miles are operated in passenger service only.

The decrease of mileage of leased lines is due to abandonment of part of the Pardee branch of the Beech Creek Railroad and a change of alignment of the main line of the same railroad. The difference in the reported mileage of road operated under trackage rights is caused by a careful revision of previously reported figures by the engineering authorities of the various railroads interested. A statement showing the total miles of road and track operated will be found on another page.

The standard form of income account promulgated by the Interstate Commerce Commission was adopted by this company on July 1, 1912. No revision of figures for the previous year nor for the first six months of the year covered by this report has been made and, therefore, some of the comparisons between the years 1911 and 1912 are somewhat distorted. The accounts principally affected by this change of form are "taxes accrued," part of the taxes which were previously charged to this account being now shown in "miscellaneous tax accruals" in the "deductions from gross corporate income" and "miscellaneous income" from which have been transferred to "miscellaneous rents" the amounts receivable as rental of property not used in the operation of the road.

The capital stock authorized is..... \$250,000,000.00
of which there is issued and outstanding..... 222,729,300.00

leaving a balance authorized but not issued of..... \$27,270,700.00

The mortgage, bonded and secured debt outstanding on December 31, 1911, was..... \$299,870,608.18

This has been added to as follows:

| | |
|--|----------------|
| Gold mortgage bonds, bearing interest at the rate of three and one-half per cent per annum | \$5,000,000.00 |
| Gold debentures of 1912, bearing interest at the rate of four per cent per annum..... | 9,156,000.00 |
| Three year gold notes due May 1, 1915, bearing interest at the rate of four and one-half per cent per annum..... | 20,000,000.00 |

| | |
|--|------------------|
| This company's pro rata liability in connection with the equipment trust certificates of 1912, bearing interest at the rate of four and one-half per cent per annum..... | 7,156,741.50 |
| Equipment trust certificates on account of the Boston & Albany Railroad, bearing interest at the rate of four and one-half per cent per annum (see page 10)..... | 5,220,000.00 |
| Mortgage on real estate in the city of New York, bearing interest at the rate of three and one-half per cent per annum..... | 1,000,000.00 |
| Mortgage on real estate in the city of Utica, bearing interest at the rate of six per cent per annum | 2,500.00 |
| | 47,535,241.50 |
| | \$347,405,849.68 |

and has been decreased as follows:

| | |
|--|------------------|
| Payments of installments falling due during the year on this company's pro rata liability in connection with the certificates issued under equipment trust agreements, as follows: | |
| Trust of 1907, installment due November, 1912 | \$793,660.12 |
| Trust of 1910, installment due January 1912 | 433,964.42 |
| Payment of mortgage on real estate in the city of New York | 150,000.00 |
| | 1,377,624.54 |
| Outstanding, as shown on the balance sheet of December 31, 1912 | \$346,028,225.14 |

In accordance with the consent of the Public Service Commission of the Second District of the State of New York, there have been acquired out of the proceeds of the issue of securities specially authorized for the purpose, 100,786 shares of common stock and 22,181 shares of preferred stock of the New York and Harlem Railroad Company of a par value of \$6,148,350, at a cost of \$21,493,053.16; 80,081 shares of stock of the Rome Watertown and Ogdensburg Railroad Company, of a par value of \$8,008,100, at a cost of \$10,250,368; and 9,322 shares of the stock of the Utica and Black River Railroad Company of a par value of \$932,200, at a cost of \$1,677,960.

SUMMARY OF FINANCIAL OPERATIONS AFFECTING INCOME.

| | 1912. | 1911. | INCREASE OR DECREASE. |
|--|------------------|------------------|-----------------------|
| OPERATING INCOME. | 3,790.65 | 3,790.23 | 0.42 miles |
| RAIL OPERATIONS— | miles operated | miles operated | |
| Revenues | \$109,900,015.57 | \$103,954,862.81 | \$5,945,152.76 |
| Expenses | 81,311,153.31 | 75,700,202.78† | 5,610,950.53 |
| NET REVENUE FROM RAIL OPERATIONS | \$28,588,862.26 | \$28,254,660.03 | \$334,202.23 |

| | | | |
|--|-----------------|------------------|-----------------|
| Percentage of expenses to revenues | (73.99%) | (72.82%) | (1.17%) |
| AUXILIARY OPERATIONS— | | | |
| Revenues | \$5,579,083.89 | \$5,202,572.62 | \$376,511.27 |
| Expenses | 5,255,057.55 | 4,881,096.79 | 373,960.76 |
| NET REVENUE FROM OUTSIDE OPERATIONS | \$324,026.34 | \$321,475.83 | \$2,550.51 |
| NET REVENUE FROM ALL OPERATIONS | \$28,912,888.60 | \$28,576,135.86 | \$336,752.74 |
| TAXES ACCRUED | 5,902,521.17 | 5,447,759.13 | 454,762.04 |
| OPERATING INCOME | \$23,010,367.43 | \$23,128,376.73 | —\$118,009.30 |
| OTHER INCOME. | | | |
| Joint facilities rents..... | \$1,929,498.22 | \$1,754,125.34 | \$175,372.88 |
| Miscellaneous rents | 406,368.82 | 309,579.61 | 96,789.21 |
| Net profit from investments in physical property..... | 62,073.62 | | 62,073.62 |
| Dividends on stocks owned or controlled | 12,791,889.90 | 11,649,589.23 | 1,142,300.67 |
| Interest on funded debt owned | 508,829.12 | 489,986.73 | 18,842.39 |
| Interest on other securities, loans and accounts | 1,785,987.82 | 1,616,736.54 | 169,251.28 |
| Miscellaneous income | 395,945.11 | 416,162.50 | —20,217.39 |
| TOTAL OTHER INCOME.... | \$17,880,592.61 | \$16,236,179.95 | \$1,644,412.66 |
| GROSS CORPORATE INCOME. | \$40,890,960.04 | \$39,364,556.68 | \$1,526,403.36 |
| DEDUCTIONS FROM GROSS CORPORATE INCOME. | | | |
| Rentals of leased lines..... | \$10,055,192.32 | \$10,036,832.20 | \$18,360.12 |
| Hire of equipment..... | 1,980,095.34 | 1,151,064.87 | 829,030.47 |
| Joint facilities rents..... | 624,602.85 | 556,026.51 | 68,576.34 |
| Miscellaneous rents | 838,920.77 | 565,593.96 | 273,326.81 |
| Miscellaneous tax accruals... | 15,961.73 | | 15,961.73 |
| Separately operated properties—loss | 346,612.72 | 210,693.02 | 135,919.70 |
| Interest on bonds..... | 9,661,603.05 | 9,162,019.58 | 499,583.47 |
| Interest on three year gold notes of 1911 and 1912.... | 1,903,125.00 | 1,085,039.99 | 818,085.01 |
| Interest on equipment trust certificates | 1,031,538.64 | 742,979.81 | 288,558.83 |
| Other interest | 337,426.34 | 76,749.96 | 260,676.38 |
| Transfer of income to other companies | 35,800.80 | | 35,800.80 |
| St L & A Railway: interest, rental, etc. | 74,000.00 | 138,600.00 | —64,600.00 |
| N Y & Ottawa Railway: interest on bonds..... | 58,240.00 | 58,240.00 | |
| Other deductions | 48,003.13 | 276,267.74 | —228,264.61 |
| TOTAL DEDUCTIONS FROM GROSS CORPORATE INCOME | \$27,011,122.69 | \$24,060,107.64† | \$2,951,015.05 |
| NET CORPORATE INCOME.. | \$13,879,837.35 | \$15,304,449.04 | —\$1,424,611.69 |
| DIVIDENDS, four each year at five per cent per annum... | 11,136,465.00 | 11,136,465.00 | |
| SURPLUS FOR THE YEAR.. | \$2,743,372.35 | \$4,167,984.04 | —\$1,424,611.69 |
| Appropriation to cover replacement value of abandoned property including buildings at Grand Central Terminal, etc. | | 2,500,000.00 | —2,500,000.00 |
| BALANCE FOR YEAR CARRIED TO PROFIT AND LOSS.... | \$2,743,372.35 | \$1,667,984.04 | \$1,075,388.31 |
| Balance to credit of profit and loss (free surplus) December 31, 1911 | | | \$13,448,668.33 |
| Surplus for the year 1912..... | | | 2,743,372.35 |
| Additions for the year: Adjustments of sundry accounts.. | | | 203,994.51 |
| | | | \$16,396,035.19 |
| Deductions for the year: | | | |
| Commissions and expenses, N Y C Lines equipment trust, 1912..... | | \$116,524.38 | |
| Discount and commissions, gold mortgage bonds | 625,000.00 | | |
| Discount and commissions, debentures of 1912 | 453,357.50 | | |
| Discount and commissions, three year gold notes of 1912 | 200,000.00 | | |
| Discount and commissions, one year notes..... | 51,306.00 | | |
| Clearfield Bituminous Coal Corporation advances, interest, taxes, etc..... | 307,307.01 | | |
| Transfer to special account, cancelling credit from profit on sale of parts of Trust equipment | 265,673.20 | | |
| Transfer to appropriated surplus, amount of initial 10% payments on Trust equipment of 1912 made during year ended December 31, 1912 | 751,368.50 | | |
| Account of abandoned facilities at various places | 130,291.24 | | |
| Sundry uncollectible accounts and adjustments | 309,794.32 | | 3,210,622.15 |
| BALANCE TO CREDIT OF PROFIT AND LOSS (FREE SURPLUS) DECEMBER 31, 1912..... | | | \$13,185,413.04 |

†Revised for purposes of comparison.

For the year covered by this report the revenue from transportation was \$108,454,633.07, an increase of \$5,903,734.81; revenue from operations other than transportation was \$1,445,382.50, an increase of \$41,417.95; revenue from auxiliary operations (connected with, but in addition to transportation by rail) was \$5,579,083.89, an increase of \$376,511.27.

The total gross revenue from all operations was \$115,479,099.46, an increase of \$6,321,664.03.

Freight revenue was \$65,101,509.99, an increase of \$3,968,200.07. The revenue freight carried amounted to 51,901,182 tons, an increase of 3,650,647 tons over last year.

Products of agriculture show an increase of 441,275 tons, chief of which are grain 208,196 tons, flour and other mill products 139,868 tons and cotton 42,703 tons. Products of animals show an added tonnage of 59,677; live stock, dressed meats and other packing house products show a decrease of 49,028 tons; wool, hides and leather an increase of 48,150 tons; milk increased 26,537 tons while dairy products fell off 4,876 tons. Products of mines show an increase of 1,815,306 tons, of which bituminous coal yielded 830,830 tons, anthracite coal 62,856 tons, coke 151,120 tons, ores 403,119 tons, and stone, sand and other articles 367,381 tons. Products of forests increased 287,711 tons. Manufactured articles increased 1,264,861 tons; cement, brick and lime showing 355,583 tons over last year's movement; metal productions increased 375,920 tons; bar and sheet metal show an increase of 154,342 tons; iron and steel rails declined to the extent of 34,367 tons. Commodities not classifiable decreased 218,183 tons.

There have been practically no changes in freight rates during the year, but owing to the large increase in medium and low class commodities transported the average revenue per ton fell from \$1.27 in 1911 to \$1.25 in the year 1912 and the rate per ton per mile declined from 6.33 mills to 6.26 mills.

The revenue from passengers amounted to \$33,134,508.72, an increase of \$1,375,270.74. There was an increase of 992,801 in the number of local passengers and of 1,158,715 in the number of commutation passengers, but the number of interline passengers decreased 100,885. The average amount received from each passenger showed a slight increase but owing to the increased volume of commutation business, the average rate per passenger per mile showed a very small decrease.

The special service train revenue shows an apparent decrease of \$133,298.25 due mainly to a revised method of accounting, a large part of the revenue which was formerly credited to this account now being credited to ordinary passenger revenue. The actual decrease is explained by the military movements to and from Pine Camp during the previous year, there being no corresponding source of revenue in 1912.

The total revenue of all passenger-train transportation was \$41,566,413.41, an increase of \$1,927,884.98 over the year 1911. Of this amount the revenue from express traffic was \$4,736,754.97, an increase of \$533,977.55 due to an enlarged volume of business.

The expenses of rail operations amounted to \$81,311,153.31, an increase of \$5,610,950.53. The ratio of rail operating expenses to the total revenues for the year was 73.99%, an increase of 1.17% over the ratio for the year 1911. Of the total increase of \$5,610,950.53 the larger part was occasioned by increased expenditures in the upkeep of the road and equipment, the total increases being as follows: For maintenance of way, structures and equipment \$3,283,253.34, for expenses of securing and transporting traffic and of general administration \$2,327,695.19.

The operating expenses, by groups, were:

| | | |
|--|-----------------|-----------------------------|
| Maintenance of way and structures..... | \$14,705,288.99 | an increase of \$981,579.79 |
| Maintenance of equipment..... | 20,440,446.48 | an increase of 2,301,675.55 |
| Traffic expenses | 2,316,426.51 | an increase of 136,220.02 |
| Transportation expenses..... | 41,052,202.08 | an increase of 2,117,171.14 |
| General expenses..... | 2,796,789.25 | an increase of 74,304.03 |
| Auxiliary operations..... | 5,255,057.55 | an increase of 373,960.76 |

In the maintenance of way and structures the repairs of roadway and track cost \$201,918.42 more than in 1911 and the maintenance and repairs of buildings, fixtures and grounds increased \$393,867.78. Removal of snow, sand and ice necessitated an increased expenditure of \$198,535.88. Improvements to signal apparatus increased \$133,206.97.

In the maintenance of equipment the repairs of locomotives and cars increased \$1,716,257.86, while the charges for renewals and depreciation of equipment increased \$461,370.80.

Transportation expenses show large increases in the cost of labor, partly accounted for by the increase in the rates of pay of the engineers as explained in a subsequent part of this report. Other increases were consequent on the enlarged volume of business transacted.

Efficiency of operation of equipment is clearly indicated by the statistics of mileage of locomotives, trains and cars. Freight locomotive mileage decreased 686,021 miles, freight train mileage decreased 378,799 miles, while loaded freight car mileage increased 19,574,385 miles. Empty car mileage decreased 11,942,275 miles, due to heavy west-bound traffic, and caboose mileage decreased 72,653 miles. Passenger locomotive mileage increased 147,158 miles, passenger train mileage increased 212,520 miles and passenger car mileage increased 3,351,872 miles.

The average load per freight train mile increased 35.49 tons (over 8%) and the load per car mile increased seven-tenths of a ton. The consumption of fuel per mile run by freight locomotives increased three-quarters of a pound, and by passenger locomotives decreased over a pound and a half. The average cost of coal increased six cents a ton and the average cost of fuel per locomotive mile increased 63/100ths of a cent.

In the operation of the Pension Department 135 employees were retired and placed upon the pension rolls. Of these retirements, 70 were authorized because of the attainment of seventy years of age and 65 because of total and permanent physical disability. Sixty-two pensioners died during 1912 and at the close of the year 700 retired employees were carried upon the pension rolls. The average monthly pension allowance to these men was \$24.19 and the total amount paid in pension allowances during the year was \$201,536.31.

Auxiliary operations show an increase in the net revenue of \$2,550.51. All the accounts under this head produced increases except harbor terminal transfers with a decrease of \$117,531.09 and dining and special car service which decreased \$37,622.79.

The amount of taxes accrued during the year was \$5,918,482.90, equal to 5.13% of the gross operating revenues of the year. The increase was \$470,723.77, or 8.64%, due to a general raising of the tax rates assessed on real estate. The Federal Government tax on income of corporations amounted to \$123,245.84, a very small decrease from that paid in 1911. As in previous years, a large portion of this amount was paid under protest. Of the suits that were instituted to recover the amounts paid on accounts of lessor companies under the claim that they are not liable to this tax, those in behalf of the West Shore Railroad Company and the Mohawk and Malone Railway Company, selected as test cases, were tried in the city of New York and the judgment of the court was in favor of the two companies. The Federal Government has taken the whole question involved to the Supreme Court where arguments have been heard and final judgment is expected early in 1913.

In deductions from gross corporate income, rentals of leased lines have

increased \$18,360.12. The rental of the Boston and Albany Railroad was larger by \$22,500.00, the amount of interest on Improvement bonds issued in 1912. The rental of the Dunkirk Allegheny Valley and Pittsburgh Railway decreased \$6,041.68 due to the refunding of its bonded debt at a lower rate of interest during the year 1911.

In other income an increase of \$1,142,300.67 is reported in the income derived from capital stock held by this company, due to the acquisition during the year of shares of the New York and Harlem Railroad Company, Rome Watertown and Ogdensburg Railroad Company and the Utica and Black River Railroad Company, as stated in a previous paragraph.

Interest on the funded obligations of this company increased \$1,606,227.31, made up of interest on securities issued during the year as follows: Gold mortgage bonds, \$175,000.00; Gold debentures of 1912, \$324,583.47; Three year gold notes of 1912, \$553,125.00; Equipment trust of 1912, \$288,558.83 and an increase of \$264,960.01 in the interest on three year gold notes of 1911, the difference between nine months' interest charged in 1911 and a whole year's interest charged in 1912.

Separately operated properties resulted in a loss of \$346,612.72, being the amount of this company's proportion of the annual guarantee to the Merchants Despatch Transportation Company, \$369,080.04, less the profit from the operation of the Dunkirk Allegheny Valley and Pittsburgh Railroad \$22,467.32, the net result being an increase of \$135,919.70 in the deductions from gross corporate income. No dividend was paid on the capital stock of the St. Lawrence and Adirondack Railway Company for this year, reducing the amount of this company's income from investments \$64,600.00 and reducing deductions from gross corporate income by the same amount.

The rate of dividend for the year was five per cent, being the same as for the previous year.

The surplus for the year, after paying dividends, amounted to \$2,743,372.35, a decrease as compared with the year 1911 of \$1,424,611.69.

Several very extensive and important projects for the improvement of facilities have been carried on during the year, chief of which are the following:—

Improvements at Utica, consisting of a new brick and stone passenger station, elimination of grade crossing at Genesee Street, a new engine terminal, increase of terminal yard tracks and the installation of new signal apparatus, for which has been expended during the year the sum of \$1,353,057.24.

Improvements at Rochester, comprising a new stone passenger station, extension and reconstruction of several bridges, the closing of Joiner Street, placing additional tracks, the building of a new power house for heating the passenger station and other buildings and the erection of several auxiliary buildings, involving during the year an expenditure of \$690,991.40.

Four-tracking the Hudson division through Poughkeepsie, between Hyde Park and Barrytown, from Storm King to Chelsea, between Tivoli and Germantown and at Stockport. Included in this plan are new passenger stations at Staatsburgh and Rhinecliff. The charges on account of this improvement reached the total of \$2,594,608.15 during the year.

Four-tracking from Spuyten Duyvil to Peekskill and the electrification of line from Spuyten Duyvil to Croton, including the consequent changes in bridges, stations and signals, cost during the year \$2,156,276.27. In this is included the development of a new terminal of the Electric division at Harmon and an important and comprehensive plan of improvements at Yonkers, consisting of the elevation of tracks and the construction of additional main tracks, a new passenger station, a new freight station, a new freight yard layout and a new passenger station at Glenwood.

The construction of a connection between this company's main line and the West Shore Railroad at Harbor, east of Utica, has cost during the year \$325,012.31, of which amount \$31,346.03 has been charged to the West Shore Railroad Company as advances for new construction.

The changing of grade crossings in the city of Buffalo, which has been in progress for many years, has been continued at a cost of \$208,177.04 for the work done during the year.

The total expenditures for additions and betterments to the property of this company during the year were:

| | | |
|---|-----------------|-----------------|
| Expenditures on road account..... | \$10,196,570.08 | |
| Additional trust equipment..... | 7,672,796.85 | \$17,869,366.93 |
| Credit value of equipment retired..... | \$4,843,288.80 | |
| Amount to equal equipment trust install- ments..... | 1,748,240.66 | |
| | \$6,591,529.46 | |
| Expenditures on equipment account..... | 5,806,061.87 | 785,467.59 |
| making a net addition to this company's property account of | | \$17,083,899.34 |

Expenditures on account of construction work on leased lines amounted to \$12,229,631.31, making a grand total of extraordinary expenditures during the year of \$29,313,530.65, details of which are shown on subsequent pages.

Under date of October 1, 1912, The New York Central and Hudson River Railroad Company became party to an agreement establishing the Boston and Albany Equipment Trust of 1912, under which, and subsequent leases, certain equipment will be acquired for use upon the Boston and Albany Railroad. The agreement provides that the total amount of trust certificates to be issued thereunder shall not exceed \$7,500,000, or 90% of the cost of the equipment to be furnished. The certificates bear interest at the rate of 4½% per annum, and are to be paid in fifteen annual installments, the first being payable October 1, 1913. Of the certificates authorized \$5,220,000 have been issued, covering not to exceed 90% of the cost of 21 locomotives, 31 passenger cars, 5,200 freight cars and 100 ballast cars. The New York Central and Hudson River Railroad Company and the New York New Haven and Hartford Railroad Company have entered into an agreement by which the New Haven Company assumes one-half of the payments under this equipment trust and becomes entitled to a one-half interest in the equipment, which, however, during the life of the trust, continues assigned to Boston and Albany Railroad use.

On November 20, 1912, the Board of Directors authorized The New York Central and Hudson River Railroad Company, together with The Lake Shore and Michigan Southern Railway Company, The Michigan Central Railroad Company, The Cleveland Cincinnati Chicago and St. Louis Railway Company, The Pittsburgh and Lake Erie Railroad Company and The Toledo and Ohio Central Railway Company to enter into an equipment trust agreement, to be dated January 1, 1913, for the purpose of establishing the New York Central Lines Equipment Trust of 1913. This agreement will provide for an issue of \$24,000,000 of equipment trust certificates, bearing interest at the rate of 4½% per annum; being not to exceed 90% of the total cost of the equipment to be furnished under the terms of the said agreement. The certificates are to be paid in fifteen annual installments, the first being payable January 1, 1914. Out of the \$24,000,000 of certificates authorized there will be issued, early in 1913, \$12,540,000. The cost of the equipment to be assigned to this company in connection with

the issue of these latter certificates will be approximately \$5,079,000, and the pro rata amount of the certificates, representing not to exceed 90% of the cost, will be approximately \$4,436,000. Full particulars as to the character of the equipment to be acquired will be set forth in the report to the stockholders for the year 1913.

On another page will be found details with respect to the New York Central Lines Equipment Trust of 1912, showing the locomotives and cars acquired thereunder and the certificates outstanding.

The operation of the Boston and Albany Railroad under the agreement between this company and the New York New Haven and Hartford Railroad Company, which became effective on July 1, 1911, and was outlined in last year's report, has resulted in a surplus of \$71,601.60 during the year covered by this report, one-half of which amount is shown in deductions from income under the title "Transfer of income to other companies."

A special committee, appointed by the Board of Directors of the Merchants Despatch Transportation Company, recommended the sale by that company to The New York Central and Hudson River Railroad Company and The Lake Shore and Michigan Southern Railway Company of all its refrigerator equipment, consisting of 5,388 cars and also 1,000 cars covered by the Merchants Despatch Equipment Trust of 1911, in proportion to the holdings of the two companies of the capital stock of the Merchants Despatch Transportation Company. On November 13, 1912, the Board of Directors authorized the cancellation of the agreement for the use of refrigerator cars dated November 1, 1907, between the Merchants Despatch Transportation Company, The New York Central and Hudson River Railroad Company, The Lake Shore and Michigan Southern Railway Company, The Michigan Central Railroad Company, The Cleveland Cincinnati Chicago and St. Louis Railway Company, The Pittsburgh and Lake Erie Railroad Company, the Peoria and Eastern Railway Company, the Rutland Railroad Company, the Lake Erie and Western Railroad Company and the Chicago Indiana and Southern Railroad Company, and on the same date authorized the purchase by this company of 2,868 refrigerator cars at cost, less depreciation; and 532 refrigerator cars covered by the Merchants Despatch Equipment Trust of 1911, this company to pay the Merchants Despatch Transportation Company 532/1000ths of the amount already paid by it on account of the 1,000 cars, less depreciation, and to assume 532/1000ths of all future payments to be made under the agreement and lease known as the Merchants Despatch Equipment Trust of 1911, the cars to be transferred to this company on January 1, 1913.

Early in January the General Chairmen's Association of the Brotherhood of Locomotive Engineers, representing the engineers on fifty-two railroads in the Eastern Section of the United States, formulated demands for a general increase in wages and for certain modifications in the rules governing their employment; and these demands were submitted to the various roads on January 22nd.

On March 14th, 15th and 25th conferences were held between the representatives of the Brotherhood of Locomotive Engineers and a Conference Committee of Managers authorized to conduct the negotiations for all of the roads concerned; the Committee of Managers declined to grant the requests either in whole or in part.

A vote of the employees was taken, resulting almost unanimously in favor of a strike, whereupon the Honorable Martin A. Knapp, Presiding Judge of the United States Commerce Court, and the Honorable Charles P. Neill, United States Commissioner of Labor, tendered mediation under the Erdman Act.

Both parties declined arbitration under that Act, and it was finally agreed, on April 30th, to submit the matters in dispute to a Board of Arbitration to consist of seven members—one to be named by the railroads, one by the engineers, and these two to agree upon five others; or, failing to so agree within fifteen days, the Chief Justice of the Supreme Court of the United States, the Presiding Judge of the Commerce Court and the United States Commissioner of Labor should name the other five members.

The railroads selected Mr. Daniel Willard, President of the Baltimore & Ohio Railroad Company, and the engineers selected Mr. P. H. Morrissey, former Grand Master of the Brotherhood of Railroad Trainmen; these two representatives having failed to agree, the other five arbitrators were appointed by the Chief Justice of the Supreme Court of the United States, the Presiding Judge of the Commerce Court and the Commissioner of Labor, as follows:

Hon. Oscar S. Straus, New York,
Dr. Charles R. Van Hise, Madison, Wisconsin,
Mr. Frederick N. Judson, St. Louis, Missouri,
Dr. Albert Shaw, New York,
Mr. Otto M. Eidlitz, New York.

The Board so constituted held its first meeting in New York city, Friday, July 12th, 1912, electing the Honorable Oscar S. Straus chairman. Hearings were held at the Oriental Hotel, Manhattan Beach, from July 15th to 27th; Grand Chief Engineer Warren S. Stone represented the Brotherhood of Locomotive Engineers and handled the case with marked ability. The evidence of a large number of witnesses on both sides was taken and a most exhaustive investigation of the question in all its details was made. The Board finally published its award on November 25th.

The Commission appointed by the Chief Justice of the Supreme Court, the Presiding Judge of the Commerce Court and the Commissioner of Labor was composed of men of high character and wide experience. Months of patient, painstaking investigation and labor were given to the consideration of the subject, and the conclusions reached, as well as recommendations submitted, are worthy of the most careful consideration.

The statement that "there is a growing realization that labor difficulties upon railroads should not be settled by war," is too self-evident to require discussion. A complete suspension of service, as was threatened by the engineers on the railroads involved in this controversy, would, in less than one week, impose suffering, almost beyond comprehension, on a vast number of people.

The principle of arbitration in some form has been accepted by both sides, and it is safe to say that neither the railroads nor any organization of employees would precipitate a strike in the face of an offer to arbitrate the question at issue.

The Arbitration Commission, recognizing this, has suggested permanent commissions, both National and State, to consider and decide all controversies of this character.

The Commission recognized the fact that under existing methods, the findings of commissions selected to consider each case, with no data save that submitted at the time, are almost always in the nature of a compromise to secure a settlement of that particular controversy, rather than a thorough, painstaking investigation to ascertain the real merits of the case.

In speaking of the Erdman Act, the Commission states, as follows:

"That the Erdman Act marks a great advance in the settlement of railroad labor disputes is shown by the increased frequency with which the Act has been invoked. Within a year after the passage of the Act a fruitless attempt was made to utilize its provisions, but nearly eight years elapsed before another case occurred. In contrast with this, during the past five years the Act has been invoked in forty-six cases, of which only eleven were arbitrations. Thus the method of mediation has been much more frequently used.

"Since the law was passed there has been no case of a great railroad strike; and, although the merits of the Erdman Act are great, indeed, certain defects in it have become apparent.

"In the cases of mediation there is no attempt on the part of the mediators to make a judicial decision wholly upon the basis of equity and justice. The primary purpose is to bring the parties together and avert a strike. This is accomplished by getting the parties sufficiently near together that suggestions may be made to which both agree. While whenever mediation is successful a strike is averted, the adjustments cannot always be regarded as based solely upon the merits of the case. Where the case is one of arbitration under the Erdman Act, the results in the above respects are usually very similar to those of mediation. The arbitrators are three in number. Each side is represented by one arbitrator. It rests, therefore, upon the third arbitrator to bring the other two arbitrators as nearly as possible together, and if he cannot do so, he must decide between them. This is accomplished by splitting differences, and the case may be adjusted without adequate investigation of the facts involved, in consequence of which the award may not rest upon a basis of equity.

"This method of splitting differences is very unsatisfactory, but it is an inevitable result of mediation or arbitration under the Erdman Act. Feeling in advance that a mediation or arbitration will result in giving only a part of what they ask, the men make maximum demands regarding compensation, rules of service, etc., with the expectation that these demands will not be fully awarded. Upon the other hand, the railroad officers, appreciating the tendency of mediators and arbitrators to split differences, make only minimum concessions, or none at all.

"By the above statements it is not meant to assert that the awards that have been made under the Erdman Act have not been reasonably fair, but that in regard to this matter the Board do not have, nor is it possible for them to obtain, adequate knowledge upon which to formulate a judgment. Cases before the Interstate Commerce Commission, no more complicated than those which have come before the mediators or arbitrators under the Erdman Act, have required a year or more before a decision was made; while the Erdman arbitrators are compelled to make a finding in thirty days, and this, notwithstanding the fact that the Interstate Commerce Commissioners have a large expert staff, including a number of examiners who act for them in taking evidence."

The recommendation of the Commission summarized is as follows:

"Instead of having a board for each case, whose members have other duties and wholly inadequate time in which to perform the work, there would be a continuous board, the members of which give their entire time to the adjustment of wages. This board would have a corps of experts and statisticians; it would be allowed sufficient time to investigate a case fully. Thus an award would be made upon the basis of merit instead of the basis of securing a settlement. If desirable, that feature of the Erdman Act and Canadian Industrial Disputes Act might be added, which provides for one representative from each party to the controversy. If this were done, and the board consisted of five or more members, it would have a permanent majority and a shifting minority. It can be urged in favor of this feature that each representative would intimately know the facts regarding his side of the case and the point of view of those represented. A board thus constituted would have a permanent controlling center interested in securing equity, which might be assisted in its work by representatives of each of the parties to the controversy.

"Above all, the wage commissions proposed would represent the public. They would work in co-operation with the Interstate Commerce Commission and thus secure to railway employees just wages; and this without regard to whether the employees are fully organized. Under the existing situation, well organized railway labor, illustrated by engineers, firemen, conductors, trainmen, etc., receive consideration from railroads not accorded to the classes of labor that are not so well organized.

"It does not follow from the above that advances in pay to organized labor have been too frequent or too large, but merely that the question of an advance for a given class of labor engaged in work upon the public utilities should not depend upon organization, but upon justice. Especially for the public utilities it is important that labor should have a just wage, and if the existing wages are not adequate they should be increased. If a just increase in wages places the public utilities in a position that does not enable them to secure a fair return upon capital invested and maintain a proper reserve, they should be allowed to increase their rates until they are in that position. In short, the public utilities should not impose an undue burden upon the public by paying higher wages than are reasonable, nor should the public receive services from the railroads at a rate so low that labor does not receive fair compensation and capital its fair return. How important this statement is will be understood when it is appreciated that, of the gross earnings of the railroads of the United States as a whole, over 42 per cent. goes to labor (excluding officials) and on the fifty-two railroads involved in this controversy, over 45 per cent.

"If the arguments above presented are sound, there seems to be no way to obtain justice for the three parties concerned—the railway companies, the railway employees and the public—except through a permanent board which shall have continually before them the problem of the adjustment of wages."

In concluding a singularly exhaustive and able report, the Board states:

"It is well understood by the Board that the problem for which the above plan is a suggested solution is a complex and difficult one. The suggestion, however, grows out of a profound conviction that the food and clothing of our people, the industries and general welfare of the nation, cannot be permitted to depend upon the policies and the dictates of any particular group of men, whether employers or employees, nor upon the determination of a group of employers and employees combined. The public utilities of the nation are of such fundamental importance to the whole people that their operation must not be interrupted, and means must be worked out which will guarantee this result."

Compulsory arbitration of course means that the railroads must submit the question of compensation and conditions of service of all employees to a commission having no interest in, or responsibility for, the financial result of the operations of the properties.

For the employee it involves the surrender to some extent of his liberty of action in deciding whether the wage he receives and the conditions under which he works are satisfactory or not.

The proposition is not an attractive one for either the employer or the employee, but it is doubtful if in the long run it will not be better for both than the conditions which may arise without some such arrangement for settling controversies.

Whether by a permanent commission, or by mediation or arbitration provided in each case as it arises, there can be little doubt that future controversies between the railroads and their employees regarding compensation, conditions of service, etc., will be settled by some form of arbitration.

It is to be feared that the result of this will be a gradual increase in compensation of railroad employees. What this increase has been during the past seven years is shown by the following figures:

In the year 1905 the gross earnings of the New York Central road were \$86,095,692. Of this amount, \$36,570,212, or 42.47%, was paid in wages. In 1912 gross earnings were \$115,479,099, of which amount \$54,115,761, or 46.86%, was paid in wages.

Making due allowance for the additional force in service, this company paid its employees in 1912, \$9,500,000 more than if the rates of pay of 1905 had been in effect. This increased payment on account of the higher level of wages was equivalent to 4.27% on the outstanding stock of the company.

For the year ended December 31, 1912, the New York Central handled the largest volume of traffic, both passenger and freight, in its history. The year was singularly favorable for handling the traffic at a moderate cost, with no casualties of a serious or unusually expensive character.

In October and November, 1911, contract was made by the New York Central Lines for 1912 delivery of 14,500 standard steel underframe 40-ton capacity box cars at an average cost of \$790 each. The best price obtainable for these cars for delivery in 1913 is \$1,075, an increase of \$285 per car, or 36 per cent, which would have made an increase in the cost of these cars of \$4,132,500.

Two thousand five hundred standard 50-ton-steel self-clearing hopper cars were contracted for at the same time at \$810 each. The price of the same cars contracted for in December, 1912, for delivery in 1913, was \$1,113 each, an increase of \$303 per car, or 37 per cent.

Eighty Pacific type freight locomotives contracted for in December, 1911, cost \$22,456 each; the price of locomotives, identical in every way, in December, 1912, for delivery in 1913, was \$26,030, an increase of \$3,574 per engine. Twenty Pacific type passenger engines for 1912 delivery cost \$24,780 each, the price for 1913 delivery is \$26,315 per engine, an increase of \$1,535 each.

The aggregate increase in the cost of this equipment, if purchased in December, 1912, compared with the actual prices paid in the latter part of 1911, would amount to \$5,206,000, or 33 per cent.

During the period covered by this report, every detail of operation has been watched constantly and intelligently, and no expense incurred not absolutely necessary to maintain the property in that high state of efficiency necessary to render safe and satisfactory service to the public.

Notwithstanding the favorable conditions under which the business was conducted and the large gross earnings, the road earned five per cent on its stock, with a surplus of only \$2,743,372.35—or about 1½ per cent on stock—a slender margin from which to provide against less favorable years and to put something back into the property from earnings, which should, if possible, be done every year.

The Engineers' Arbitration Commission stated:

"If a just increase in wages places the public utilities in a position that does not enable them to secure a fair return upon capital invested and maintain a proper reserve, they should be allowed to increase their rates until they are in that position."

In the light of conditions present and immediately prospective, it does not seem that an application to the Interstate Commerce Commission for permission to make some increase in freight rates can be long deferred.

The preparation for electrical operation of all passenger trains to Harmon on the Hudson River is practically completed and it is expected that the entire Electric Division will be put in full operation in March, 1913.

The concourse and waiting room on the express level of the new Grand Central Terminal main station building were opened for use on February 2, 1913, while this report was in process of compilation, thus placing in service the major portion of the facilities for the handling of passenger traffic in and out of New York city, work on which was begun in 1903. The suburban concourse was opened for partial use on October 27, 1912.

Changes in the scope of the plan have delayed the completion of the cross streets and an extension of time was obtained; the whole of this work will be finished during 1913. The Adams Express building on Lexington Avenue was completed and occupied early in the year. Vanderbilt Avenue has been reconstructed, and is now open for traffic. Work on the arrival station and the new hotel is progressing satisfactorily. The demolition of the hospital building, Lexington Avenue between 42nd and 43rd Streets, and the old Grand Central Palace is now in process.

The entire work of reconstruction of the Terminal has progressed without interruption of train service, and the prompt handling of the heavy traffic without a single serious accident to a passenger from the construction, excavation and blasting necessarily incident to the carrying on of an improvement of this magnitude, is most gratifying. The press and public have been unanimous in their approval of the result as embodied in the appointments and arrangement of the station facilities, from a practical as well as an artistic standpoint.

I desire to express the appreciation of the management of the unremitting efforts and loyal co-operation of the officers and employees of the Construction and Operating Departments whose efficiency and devotion to duty have accomplished these very gratifying results. Also to the public, whose patience in overlooking many discomforts and inconveniences incident to the reconstruction period has immeasurably aided in the safe and rapid conduct of the work.

Appreciative acknowledgment is made to the Public Service Commission of the State of New York, the Massachusetts Board of Railroad Commissioners and the Interstate Commerce Commission for helpful co-operation in improving the service and in maintaining friendly and cordial relations between the road and the public.

Especial obligation is felt for the timely and efficient efforts of the Interstate Commerce Commission in expediting the movement and preventing the abuse of cars. The freedom with which an unprecedented volume of traffic has been moved and the absence of any serious car shortage or congestion is due in no small measure to this wise and helpful co-operation.

An amendment to the by laws of the company abolished the Executive Committee as a standing committee and constituted a Finance Committee of which the following directors were made the members: William K. Vanderbilt, J. Pierpont Morgan, William Rockefeller, George F. Baker and Lewis Cass Ledyard.

The following changes in Executive officers were made during the year:

March 7th, William K. Vanderbilt, Jr., Assistant to the President, was made a Vice President of the Company and of all the New York Central Lines; April 3rd, Alfred H. Smith, Vice President and General Manager of the New York Central and Hudson River Railroad Company, was made a Vice President of all the New York Central Lines, relinquishing his duties as General Manager; April 15th, Abraham T. Hardin was made Assistant Vice President of The New York Central and Hudson River Railroad Company.

The following appointments, all being promotions, were made during the year:

February 23d, George W. Porter, Paymaster, to be Assistant Treasurer to succeed Milton S. Barger, who was appointed Treasurer of the New York Central Lines West, succeeding Charles F. Cox, deceased. April 15th, Patrick E. Crowley, General Manager; Howard L. Ingersoll, Assistant General Manager; William J. Fripp, Assistant General Manager. October 1st, Stephen R. Payne, Assistant to the General Manager.

Grateful acknowledgment is made of the faithful, efficient performance of duty of employees in every department of the service during the year.

WILLIAM C. BROWN,
President.

